

MDX-100/100RDS

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-100
AEP Model
UK Model
MDX-100RDS

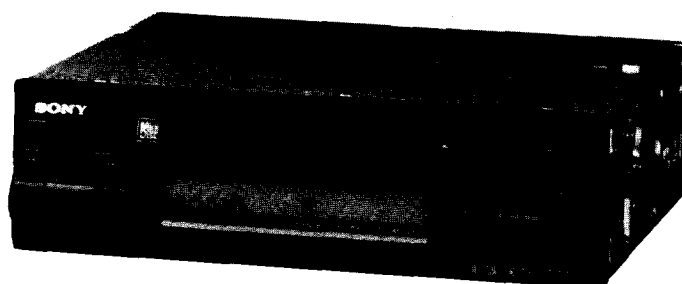


Photo: US, Canadian, E Model



Model Name Using Similar Mechanism	MDX-U1
Tape Transport Mechanism Type	KMS-150A

SPECIFICATIONS

MiniDisc section

Signal-to-noise ratio	90 dB
Frequency response	20 – 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode Properties	
Material	GaAlAs
Wavelength	780 nm
Emission duration	Continuous
Laser output power	Less than 44.6 μ W*

- * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

Tuner section

FM

Tuning range	US, Canadian: 87.5 – 107.9 MHz E: FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step) AEP, UK, German: 87.5 – 108.0 MHz
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Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf (75 ohms)
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM (US, Canadian, E)

Tuning range	US, Canadian: 530 – 1,710 kHz E: AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
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Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 μ V

MW (AEP, UK, German)

Tuning range	531 – 1,602 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 μ V

LW (AEP, UK, German)

Tuning range	153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	50 μ V

SW (AEP, UK, German)

Tuning range	5,950 – 6,205 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	50 μ V

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— Continued on next page —

FM/AM MINIDISC PLAYER
MDX-100

FM/MW/LW/SW MINIDISC PLAYER
MDX-100RDS

SONY®





Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	Except E: 20 W × 4 (at 4 ohms) E: 25 W × 4 (at 4 ohms)
General	
Output lead	Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ± 8 dB at 100 Hz Treble ± 8 dB at 10 kHz
Loudness	+6 dB at 100 Hz +6 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 160 mm (7 ¹ / ₈ × 2 × 6 ³ / ₈ inches) (w/h/d), not incl. projecting parts and controls
Mounting dimensions	Approx. 178 × 50 × 145 mm (7 ¹ / ₈ × 2 × 5 ⁷ / ₈ inches) (w/h/d), not incl. projecting parts and controls
Mass	Approx. 1.3 kg (2 lb. 14 oz.)
Accessories supplied	Mounting hardware (1 set) Power connecting cord (1) Front panel case (1)


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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1 GENERAL

This section is extracted from instruction manual.

Connection

Connexions

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- Run all ground wires to a common ground point.

When the Unit is Used in a Car with No Accessory Position on the Ignition Key Switch

— POWER SELECT Switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear if the unit is used in a car with no accessory position on the ignition key switch. To avoid this battery wear when using the unit in such a car, set the **POWER SELECT** switch located on the bottom of the unit to the **OFF** position. The illumination is reset to stay off when the unit is not being played.

Note

The caution alarm for the front panel is not activated when the **POWER SELECT** switch is set to the **OFF** position.

When a digital pre-amplifier etc. is connected

— LINE-OUT/LINE-IN (EQ-IN) Switch

Set the **LINE-OUT/LINE-IN (EQ-IN)** switch, which is on the underside of the unit, to position **LINE-IN**, so that the **LINE-OUT/LINE-IN (EQ-IN)** terminal will function as **LINE-IN (EQ-IN)** terminal. When the switch is set to **LINE-OUT**, the terminal will work as **LINE-OUT** terminal.

Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les raccordements, débranchez la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Raccordez les fils **jaune** et **rouge** d'alimentation uniquement après avoir réalisé toutes les autres connexions.
- Raccordez le fil d'alimentation rouge à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoire.
- Rassemblez tous les fils de terre en un point de masse commun.

Si l'appareil est utilisé dans une voiture dont l'interrupteur d'allumage n'a pas de position accessoire — Interrupteur POWER SELECT

L'éclairage e du panneau avant est réglé en usine de manière à s'allumer même quand l'appareil ne fonctionne pas. Cependant, ce réglage risque d'épuiser la batterie si l'appareil est utilisé dans une voiture dont l'interrupteur d'allumage ne possède pas de position accessoire. Pour éviter cet inconvénient, réglez l'interrupteur **POWER SELECT** sous l'appareil sur **OFF**. L'éclairage restera éteint quand l'appareil n'est pas utilisé.

Remarque

Quand l'interrupteur **POWER SELECT** est réglé sur **OFF**, l'avertisseur de la façade ne fonctionne pas.

Quand un préamplificateur numérique, entre autres, est raccordé

— Sélecteur LINE-OUT/LINE-IN

Réglez le sélecteur **LINE-OUT/LINE-IN (EQ-IN)**, qui se trouve sous l'appareil, sur la position **LINE-IN**, pour que la borne **LINE-OUT/LINE-IN (EQ-IN)** fonctionne comme borne **LINE-IN (EQ-IN)**. Quand le sélecteur est sur **LINE-OUT**, la borne fonctionne comme borne **LINE-OUT**.

Change the position with a jeweler's screwdriver, etc.
Changer la position avec un tournevis de joaillier ou autre objet similaire.
Den Schalter mit einem kleinen Schraubenzieher o.ä. umstellen.
Cambiare la posizione con un cacciavite da gioielliere, ecc.



When you change the position of the switch, be sure to press one of the reset buttons after the connections are completed.

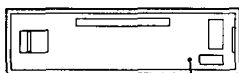
Si vous changez la position de l'interrupteur, n'oubliez pas d'appuyer sur une des touches de réinitialisation après avoir terminé tous les raccordements.

Reset Button

Touche de réinitialisation

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc. The reset button is located on the left of the connector on the unit side when the front panel is detached.

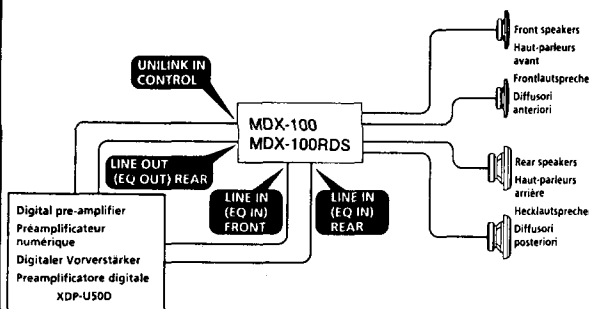
Quand vous avez terminé l'installation et les raccordements, appuyez sur la touche de réinitialisation avec un stylo-bille ou un objet pointu. La touche de réinitialisation est située à gauche du connecteur sur la partie de l'appareil qui se trouve derrière la façade.



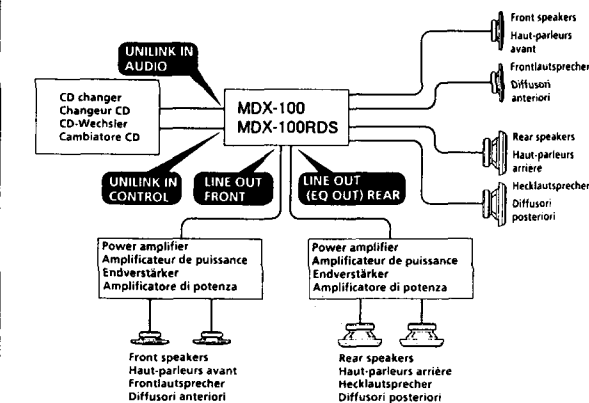
Reset button
Touche de réinitialisation
Rückstellaste
Pulsante di azzeramento

Connection Diagram Schémas de connexion Anschlußdiagramm Schema di collegamento

- Example 1** Set the **LINE-OUT/LINE-IN (EQ-IN)** switch to position **LINE-IN (EQ-IN)**
Exemple 1 Réglez le sélecteur **LINE-OUT/LINE-IN (EQ-IN)** sur la position **LINE-IN (EQ-IN)**
Beispiel 1 Stellen Sie den **LINE-OUT/LINE-IN (EQ-IN)**-Schalter auf **LINE-IN (EQ-IN)**
Esempio 1 Regolare l'interruttore **LINE-OUT/LINE-IN (EQ-IN)** sulla posizione **LINE-IN (EQ-IN)**

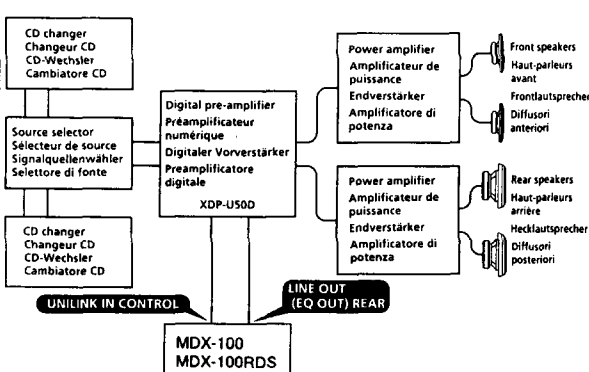


- Example 2** Set the **LINE-OUT/LINE-IN (EQ-IN)** switch to position **LINE-OUT**
Exemple 2 Réglez le sélecteur **LINE-OUT/LINE-IN (EQ-IN)** sur la position **LINE-OUT**
Beispiel 2 Stellen Sie den **LINE-OUT/LINE-IN (EQ-IN)**-Schalter auf **LINE-OUT**
Esempio 2 Regolare l'interruttore **LINE-OUT/LINE-IN (EQ-IN)** sulla posizione **LINE-OUT**



If you connect two or more CD changers, the source selector XA-U20 or XA-U40 is required.
Bei Anschluß von zwei oder mehr CD-Wechseln wird der Signalquellenwähler XA-U20 oder XA-U40 benötigt.
Se si collegano due o più cambiatori CD, è necessario il selettore di fonte XA-U20 o XA-U40.

- Example 3** Set the **LINE-OUT/LINE-IN (EQ-IN)** switch to position **LINE-OUT**
Exemple 3 Réglez le sélecteur **LINE-OUT/LINE-IN (EQ-IN)** sur la position **LINE-OUT**
Beispiel 3 Stellen Sie den **LINE-OUT/LINE-IN (EQ-IN)**-Schalter auf **LINE-OUT**
Esempio 3 Regolare l'interruttore **LINE-OUT/LINE-IN (EQ-IN)** sulla posizione **LINE-OUT**



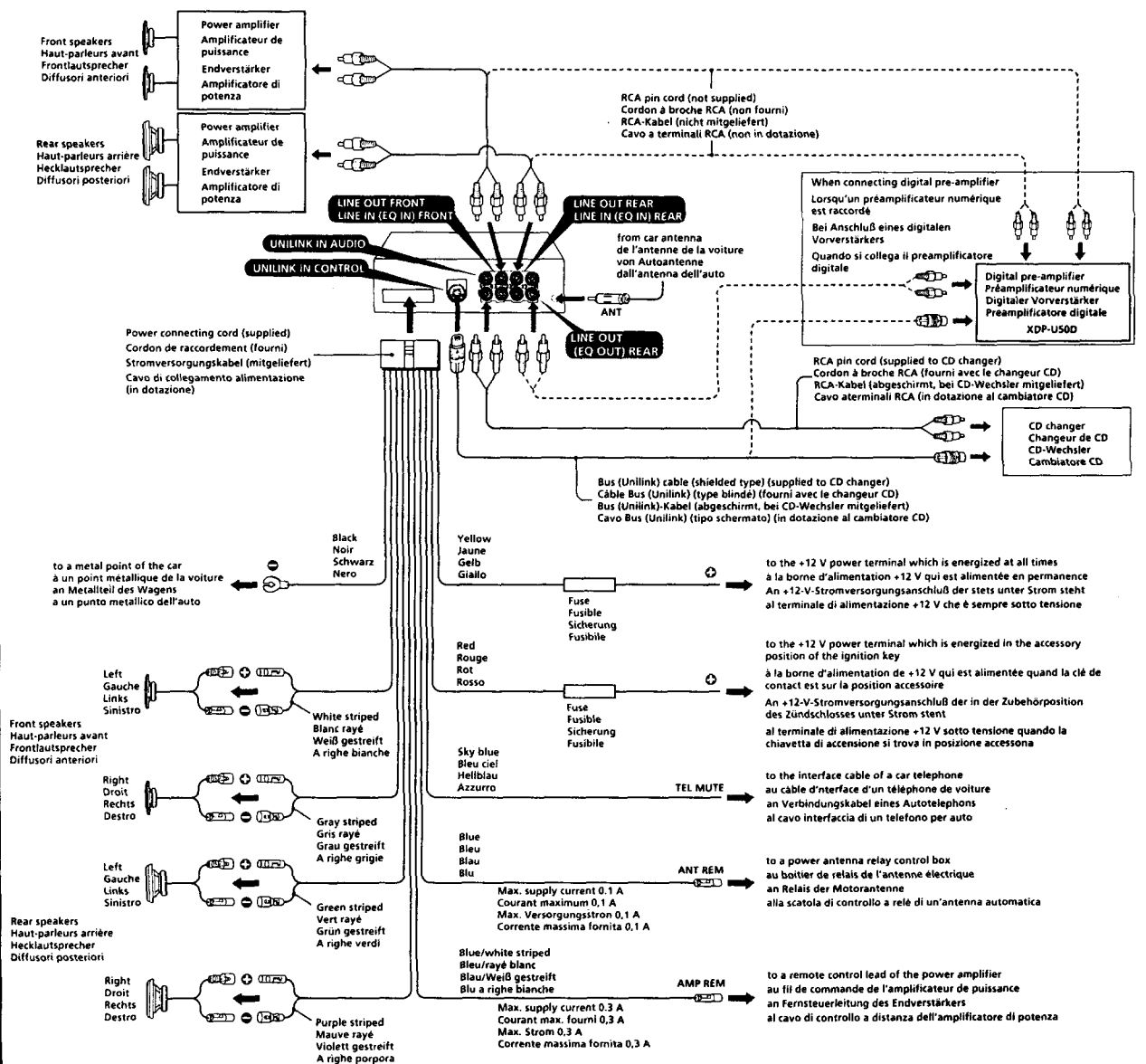
For details about the connection, refer to the operating instructions of XDP-US00 (not supplied).
Pour les détails au sujet des raccordements, veuillez consulter le mode d'emploi du XDP-US00 (non fourni).
Genaueres zum Anschluß siehe Bedienungsanleitung des XDP-US00 (nicht mitgeliefert).
Per dettagli sui collegamenti, fare riferimento al manuale di istruzioni del XDP-US00 (non in dotazione).

Connection Example

Exemple de raccordement

Anschlußbeispiel

Esempio di collegamento



Notes on the control leads

- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the AF (Alternative Frequency) or the TA (Traffic Announcement) Function.
- A power antenna without relay box cannot be used with this unit.

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

Remarques sur les fils de contrôle

- Le fil de contrôle (bleu) de l'antenne électrique fournit un courant continu de +12 V quand le tuner est allumé ou quand la fonction, AF (Fréquences alternatives) ou TA (Informations routières) est mise en service.
- Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.

Connexion pour le maintien de la mémoire

Quand le fil d'entrée d'alimentation jaune est raccorde, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur la connexion des haut-parleurs

- Avant de raccorder les haut-parleurs, mettre l'appareil hors tension.
- Utiliser des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.
- Ne pas raccorder les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.
- Ne pas tenter de raccorder les haut-parleurs en parallèle.
- Ne pas raccorder des haut-parleurs amplifiés (avec amplificateurs intégrés) aux bornes de haut-parleur de l'appareil sous peine de les endommager. Veiller à raccorder des haut-parleurs passifs à ces bornes.

Hinweise zu den Steuerleitungen

- Die (blaue) Motorantennen-Steuerleitung liefert eine Gleichspannung von +12 V, wenn der Tuner eingeschaltet, die AF-Funktion (Alternative Frequency) oder die TA-Funktion (Traffic Announcement) aktiviert ist.
- Es kann nur eine Motorantenne mit Relaisbox angeschlossen werden.

Zur Stromversorgung des Speichers

Sobald die gelbe Stromversorgungsleitung angeschlossen ist, wird der Speicher-Schaltkreis stets (d.h. auch bei ausgeschalteter Zündung) mit Strom versorgt.

Hinweise zum Lautsprecheranschluß

- Schalten Sie das Gerät aus, bevor Sie die Lautsprecher anschließen.
- Verwenden Sie Lautsprecher mit einer Impedanz zwischen 4 und 8 Ohm und ausreichender Belastbarkeit. Ansonsten können die Lautsprecher beschädigt werden.
- Verbinden Sie die Lautsprecheranschlüsse nicht mit dem Wagenchassis und verbinden Sie auch nicht die Anschlüsse des rechten mit denen des linken Lautspeichers.
- Versuchen Sie nicht, Lautsprecher parallel anzuschließen.
- An die Lautsprecheranschlüsse dieses Gerätes dürfen nur Passivlautsprecher angeschlossen werden. Schließen Sie keine Aktivlautsprecher (Lautsprecher mit eingebauten Verstärkern) an, da diese sonst beschädigt werden können.

Note sui cavi di controllo

- Il cavo di controllo antenna automatica (blu) fornisce +12 V CC quando si accende il sintonizzatore o quando si attiva la funzione AF (frequenza alternativa) o TA (notiziari sul traffico).
- Non è possibile usare un'antenna automatica senza scatola a relè con questo apparecchio.

Collegamento per la conservazione in memoria

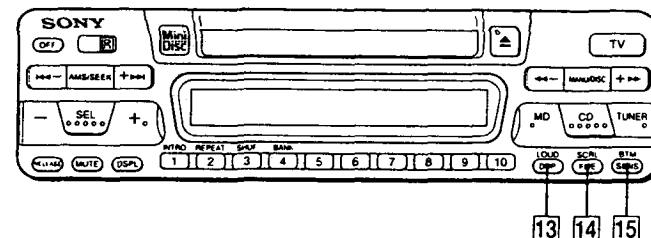
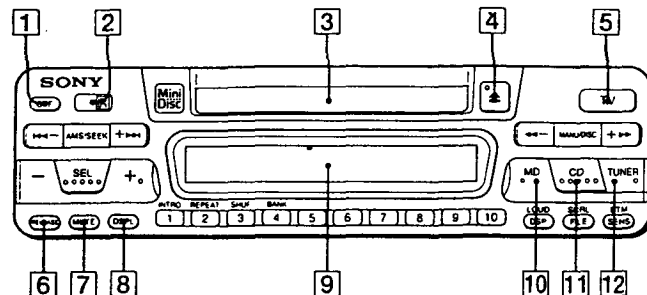
Quando è collegato il cavo di ingresso alimentazione giallo, il circuito di memoria è alimentato continuamente anche quando la chiavetta di accensione è regolata sulla posizione di spegnimento.

Note sul collegamento dei diffusori

- Prima di collegare i diffusori spegnere l'apparecchio.
- Usare diffusori di impedenza compresa tra 4 e 8 ohm e con capacità di potenza adeguate, altrimenti i diffusori possono essere danneggiati.
- Non collegare i terminali del sistema diffusori al telaio dell'auto e non collegare i terminali del diffusore destro a quelli del diffusore sinistro.
- Non tentare di collegare i diffusori in parallelo.
- Non collegare alcun diffusore attivo (con amplificatore incorporato) ai terminali diffusori dell'apparecchio perché questo può danneggiare i diffusori attivi. Assicurarsi di collegare dei diffusori passivi a questi terminali.

Location and Function of Controls (US/Canadian Model)

Main unit



Refer to the pages in ● for details.

1 OFF button

Press to turn off the unit.

2 Receptor (for the optional wireless remote commander)

3 MiniDisc compartment

4 ▲ (eject) button 1b

5 TV (television/video select) button*1

Each time the button is pressed, the mode changes in order of:

TV (television picture) → VIDEO 1 (video picture) → VIDEO 2*2 → TV.

*1 Only when the optional TV tuner unit is connected.

*2 Only when the rear TV monitor is connected and the "VIDEO 2" mode is selected.

6 RELEASE (front panel release) button 1b

7 MUTE button

Press to mute the sound momentarily.

Press again to restore the same volume level. This button is also canceled in the following cases:

- when the + side of the [] button or the OFF button is pressed.
- when ejecting a MiniDisc by pressing the ▲ button during MiniDisc playback.
- when the ignition key of your car has been turned to the OFF position for more than eight seconds.

8 DSPL (display mode change/time set) button

Each time the button is pressed, the display on the display window changes as follows:

MiniDisc	Elapsed playback time → Disc title* → Track title → Clock
CD	Elapsed playback time → Disc title* → Clock
Radio	Station name* → Frequency → Clock
TV	Channel number → TV station* → Clock

* If the title has not been registered, "NO Name" indication will appear on the display window.

9 Display window

10 MD (MiniDisc play) button 1b

11 CD (disc play/CD changer select) button 1b

12 TUNER (radio on/band select) button

Each time the button is pressed, the band changes in order of:

FM1 → FM2 → AM → FM1

13 DSP (Digital Signal Processor mode on • off/select)/LOUD (loudness) button

If pressed lightly with the DSP XDP-U50D connected, this button will function as the DSP mode on/off button. If you press for more than one second, the unit will enter the DSP select/adjust mode. Each time you press the button, the DSP select/adjust mode and the display on the display window will change as follows:

Display window	DSP select/adjust mode
SUR	Surround menu select/Effect level adjust
LP1	Listening position adjustment
SUB	Subwoofer tone/volume adjustment
BAS	Bass adjustment
TRE	Treble adjustment

Loudness mode

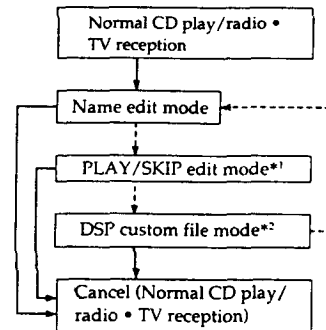
If pressed with the DSP XDP-U50D not connected, this button will serve to reinforce bass and treble at low volume. To cancel the loudness mode, press the button again.

14 FILE (custom file mode select • set/list up)/SCRL (scroll) button

Each time the button is pressed, the mode changes as follows:

→ : Press the button for more than two seconds.

→ : Press the button lightly.



*1 The unit enters this mode only when the CD custom file function is activated.

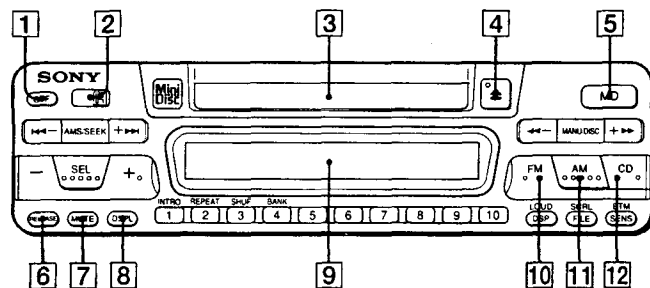
*2 The unit enters this mode only when the DSP custom file function is activated.

If the button is pressed only lightly while the optional TV tuner and monitor are connected, the information of the disc and radio/TV will be displayed on the TV monitor.

15 SENS (sensitivity adjust)/BTM (Best Tuning Memory) button 1b 1b

Location and Function of Controls (E Model)

Main unit



Refer to the pages in ● for details.

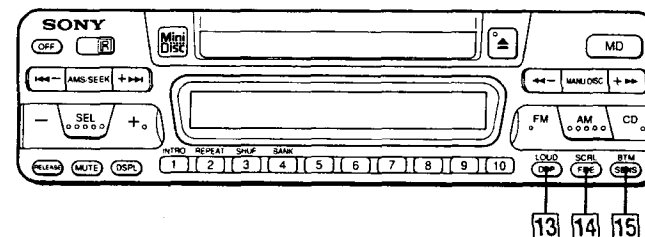
- 1 OFF button**
Press to turn off the unit.
- 2 Receptor (for the optional wireless remote commander)**
- 3 MiniDisc compartment**
- 4 ▲ (eject) button 16**
- 5 MD (MiniDisc play) button 14**
- 6 RELEASE (front panel release) button 12**
- 7 MUTE button**
Press to mute the sound momentarily. Press again to restore the same volume level. This function is also canceled in the following cases:
 - when the + side of the button or the OFF button is pressed.
 - when ejecting a MiniDisc by pressing the ▲ button during MiniDisc playback.
 - when the ignition key of your car has been turned to the OFF position for more than eight seconds.

- 8 DSPL (display mode change/time set) button**
Each time the button is pressed, the display on the display window changes as follows:

MiniDisc	Elapsed playback time → Disc title* → Track title → Clock
CD	Elapsed playback time → Disc title* → Clock
Radio	Station name* → Frequency → Clock

* If the title has not been registered, "NO Name" indication will appear on the display window.

- 9 Display window**
- 10 FM (radio on/band select) button**
At each pressing, the button changes the band cyclically as follows:
FM1 → FM2 → FM1
- 11 AM (radio on) button 17**
- 12 CD (disc play) button 20**



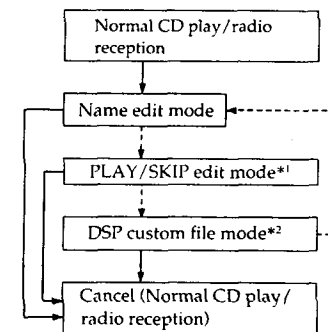
- 13 DSP (Digital Signal Processor mode on • off/select)/LOUD (loudness) button**
If pressed lightly with the optional XDP-U50D connected, this button will function as the DSP mode on/off button. If you press for more than one second, the unit will enter the DSP select/adjust mode. Each time you press the button, the DSP select/adjust mode and the display on the display window will change as follows:

Display window	DSP select/adjust mode
SUR	Surround menu select/Effect level adjust
LP1	Listening position adjustment
SUB	Subwoofer tone/volume adjustment
BAS	Bass adjustment
TRE	Treble adjustment

Loudness mode

If pressed with the optional XDP-U50D not connected, this button will serve to reinforce bass and treble at low volume. To cancel the loudness mode, press the button again.

- 14 FILE (custom file mode select • set/list up)/SCRL (scroll) button**
Each time the button is pressed, the mode changes as follows:
 - : Press the button for more than two seconds.
 - : Press the button lightly.

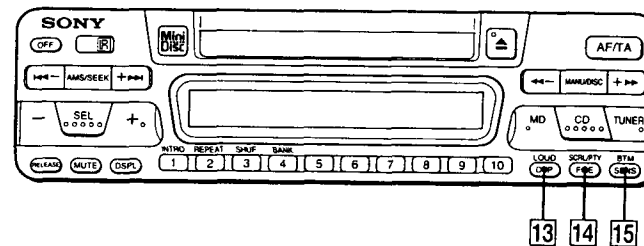
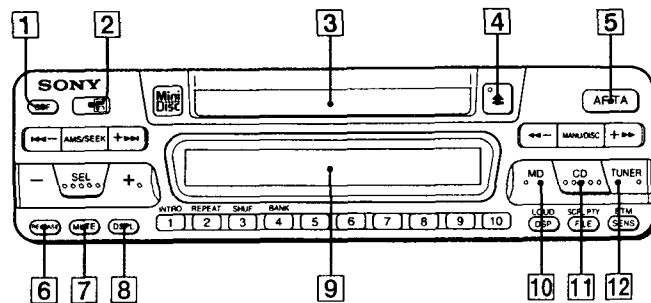


- *1 The unit enters this mode only when the CD custom file function is activated.
- *2 The unit enters this mode only when the DSP custom file function is activated.

- 15 SENS (sensitivity adjust)/BTM (Best Tuning Memory) button 17 18**

Location and Function of Controls (AEP/UK/German Model)

Main unit



Refer to the pages in ● for details.

1 OFF button

Press to turn off the unit.

2 Receptor (for the optional wireless remote commander)

3 MiniDisc compartment

4 ▲ (eject) button 16

5 AF/TA (alternative frequency/traffic announcement) button

Each time the button is pressed, the function changes in order of:

AF → TA → AF/TA → none → AF

6 RELEASE (front panel release) button 16

7 MUTE button

Press to mute the sound momentarily. Press again to restore the same volume level. This function is also canceled in the following cases:

- when the + side of the button or the OFF button is pressed.
- when ejecting a MiniDisc by pressing the ▲ button during MiniDisc playback.
- when the ignition key of your car has been turned to the OFF position for more than eight seconds.

8 DSPL (display mode change/time set) button

Each time the button is pressed, the display on the display window changes as follows:

MiniDisc	Elapsed playback time → Disc title*1 → Track title → Clock
CD	Elapsed playback time → Disc title*1 → Clock
Radio	Station service name*2 → Frequency → Clock

*1 If the title has not been registered, "NO Name" indication will appear on the display window.

*2 If the RDS function is in operation.

9 Display window

10 MD (MiniDisc play) button 16

11 CD (disc play/CD changer select) button 16

12 TUNER (radio on/band select) button

Each time the button is pressed, the band changes in order of:
FM1 → FM2 → MW → LW (SW*) → FM1

* For the models for Germany, Switzerland and Austria.

13 DSP (Digital Signal Processor mode on • off/select)/LOUD (loudness) button

If pressed lightly with the optional XDP-U50D connected, this button will function as the DSP mode on/off button. If you press for more than one second, the unit will enter the DSP select/adjust mode. Each time you press the button, the DSP select/adjust mode and the display on the display window will change as follows:

Display window	DSP select/adjust mode
SUR	Surround menu select/Effect level adjust
LP1	Listening position adjustment
SUB	Subwoofer tone/volume adjustment
BAS	Bass adjustment
TRE	Treble adjustment

Loudness mode

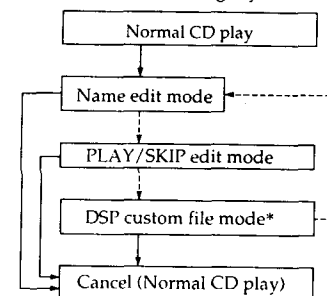
If pressed with the optional XDP-U50D not connected, this button will serve to reinforce bass and treble at low volume. To cancel the loudness mode, press the button again.

14 FILE (custom file mode select • set/list up)/SCRL (scroll) /PTY (program type) button 16 16

Each time the button is pressed, the mode changes as follows:

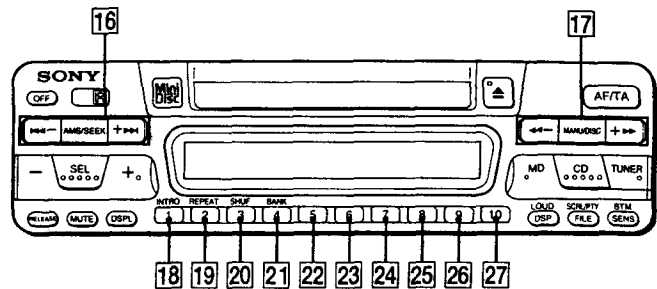
→ : Press the button for more than two seconds.

→→ : Press the button lightly.



* The unit enters this mode only when the DSP custom file function is activated.

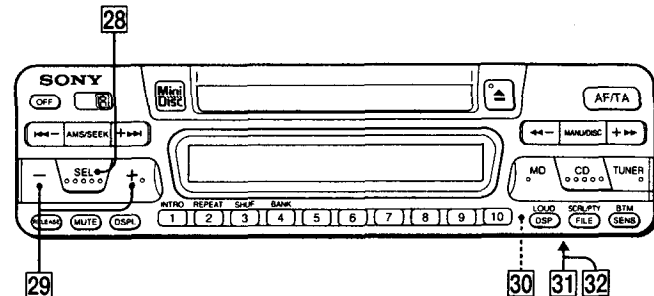
15 SENS (sensitivity adjust)/BTM (Best Tuning Memory) button 16 16



	During MiniDisc/CD play	Radio reception
16	AMS (Automatic Music Sensor) button + : Press once to locate the beginning of the next track. - : Press once to locate the beginning of the currently playing or a previous track. During playback, press only as many times as the number of tracks you want to skip. (Include also the current track in this number when locating a previous track.) Note When you keep the AMS button pressed and reach either the beginning or end of a MiniDisc, you will not be able to go any further.	SEEK (automatic tuning) button 16 Press either side of the button.
17	MANU (manual search) button Keep either side of the button pressed until the desired part of a track is located. + : To fast-forward - : To fast-reverse Note If you keep the MANU button pressed and reach the end of the MiniDisc, "Lead Out" will appear on the display window. Likewise, if the beginning of the MiniDisc has been reached, "Lead In" will appear on the display window. DISC (disc change) button Press the button lightly to select discs. (When the optional Sony CD changer(s) is (are) connected) + : To select the next disc number - : To select the previous disc number	MANU (manual tuning) button 16 Keep the MANU button pressed.

	During MiniDisc/CD play	Radio reception
18	INTRO (intro scan) button 18 19	Preset number buttons 18-27
19	REPEAT (repeat play) button 19 20	
20	SHUF (shuffle play) button 20 21	
21	BANK button (during CD play) 21	
22	—	
23	—	
24	—	
25	—	
26	—	
27	—	

The buttons 18-27 also function as the direct disc selection buttons during CD play. Press the button whose number corresponds with the desired disc number for more than one second.



28 SEL (control mode select/character set) button

29 (bass/treble/balance/fader/volume control/character select) button
Normally, either side of the button is pressed to control the volume. Pressing the SEL button changes the mode as follows:

→ BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader) → VOL (volume) →

Press either side of the button (to adjust the level) within three seconds, or the volume mode will return.

Display Window			
	Control mode	Press - side	Press + side
BAS	Bass control	For less bass	For more bass
TRE	Treble control	For less treble	For more treble
BAL	Balance control	To decrease the right speaker's volume	To decrease the left speaker's volume
FAD	Fader control*	To decrease the rear speaker's volume	To decrease the front speaker's volume
VOL	Volume control	For less volume	For more volume

* When the optional XDP-U50D is connected, the fader settings can be set separately for the DSP on mode and DSP off mode.
When you use a stereo graphic equalizer (not supplied), set the fader control to the center position and adjust the level with the equalizer.

30 Reset button (located on the front side of the unit hidden by the front panel)

Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

31 POWER SELECT switch (located on the bottom of the unit)

See "POWER SELECT Switch" in the Installation/Connections manual.

32 LINE-OUT/LINE-IN (EQ-IN) switch (located on the bottom of the unit)

See "LINE-OUT/LINE-IN switch" in the Installation/Connections manual.

When the positions of switches 31 and 32 have been changed, be sure to press the reset button after connecting power.

Changing the illumination color

Press the button while pressing the button. You can choose the color between amber and green.

Muting the beep tone

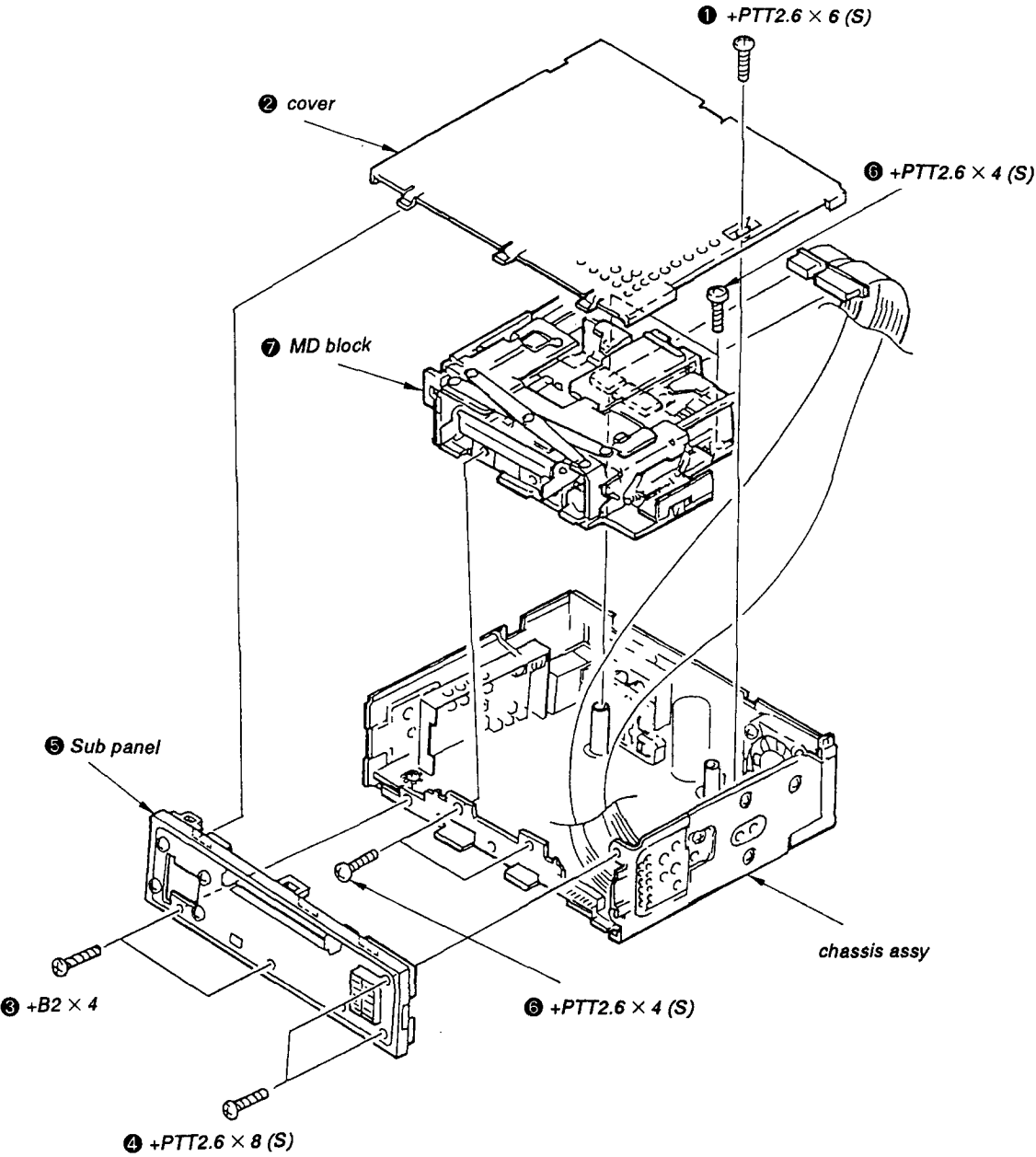
Press the button while pressing the button. To obtain the beep tone again, press these buttons once more.

SECTION 2

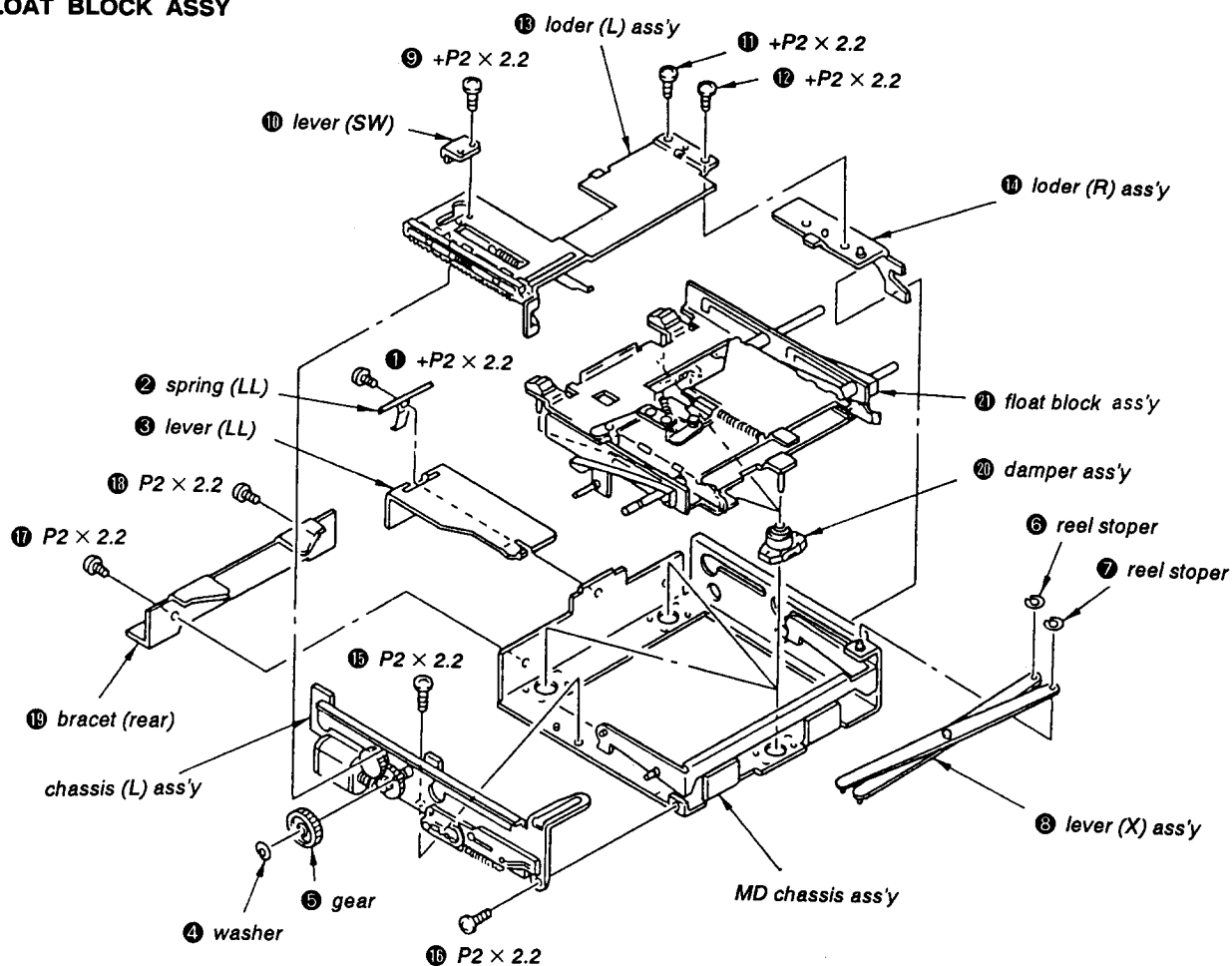
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

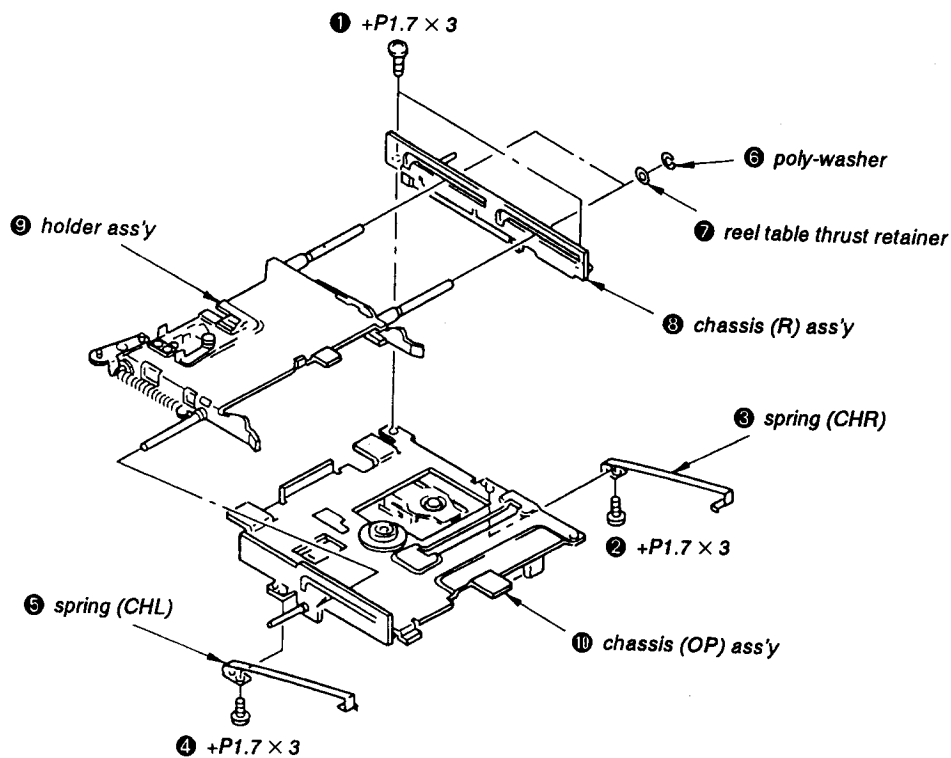
MD BLOCK



FLOAT BLOCK ASSY





CHASSIS (OP) BLOCK ASSY




SECTION 3 DIAGRAMS

3-1. IC PORT FUNCTION DESCRIPTION

MASTER MICRO COMPUTER μ PD75518GF-160-3B9 (MDX-100)/ μ PD75518GF-205-3B9 (MDX-100RDS)
(MAIN BOARD IC501)

Pin No.	Port Name	I/O	Description																																						
1	KI0	ADI	Key input by A/D conversion no.0 <table><tr><th>AD VALUE [V]</th><th>KEY-IN0 AN0</th><th>With SEL /+</th></tr><tr><td>0 — 0.293</td><td>EJECT</td><td rowspan="5">DSP FILE</td></tr><tr><td>0.313 — 0.605</td><td>TV</td></tr><tr><td>0.625 — 0.918</td><td>DSP/LOUD</td></tr><tr><td>0.938 — 1.230</td><td>10</td></tr><tr><td>1.250 — 1.543</td><td>9</td></tr><tr><td>1.563 — 1.855</td><td>8</td><td rowspan="3">LINE OUT LEVEL</td></tr><tr><td>1.875 — 2.168</td><td>7</td></tr><tr><td>2.188 — 2.480</td><td>6</td></tr><tr><td>2.500 — 2.793</td><td>5</td><td rowspan="3">BANK INV</td></tr><tr><td>2.813 — 3.105</td><td>4 BANK</td></tr><tr><td>3.125 — 3.418</td><td>3 SHUF</td></tr><tr><td>3.438 — 3.730</td><td>2 REPEAT</td><td rowspan="3">BEEP ILLUMINATION</td></tr><tr><td>3.750 — 4.403</td><td>1 INTRO</td></tr><tr><td>4.063 — 4.355</td><td>DSPL</td></tr><tr><td>4.375 — 4.668</td><td colspan="2">(KEY OFF)</td></tr></table>	AD VALUE [V]	KEY-IN0 AN0	With SEL /+	0 — 0.293	EJECT	DSP FILE	0.313 — 0.605	TV	0.625 — 0.918	DSP/LOUD	0.938 — 1.230	10	1.250 — 1.543	9	1.563 — 1.855	8	LINE OUT LEVEL	1.875 — 2.168	7	2.188 — 2.480	6	2.500 — 2.793	5	BANK INV	2.813 — 3.105	4 BANK	3.125 — 3.418	3 SHUF	3.438 — 3.730	2 REPEAT	BEEP ILLUMINATION	3.750 — 4.403	1 INTRO	4.063 — 4.355	DSPL	4.375 — 4.668	(KEY OFF)	
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4.063 — 4.355	DSPL																																								
4.375 — 4.668	(KEY OFF)																																								
2	AVDD	—	Reference voltage input for A/D converter input (5 V).																																						
3	VDD	—	Power for μ -COM																																						
4	VDD	—	Power for μ -COM																																						
5	KEY-ACT	O	Power on/off switch for A/D buttons. High: POWER ON, Low: POWER OFF																																						
6	AMP-ON	O	LED on/off switch for general keys on nose. High: LED on, Low: LED off.																																						
7	ILL-ON	O	LED on/off switch for source keys on nose. High: LED on, Low: LED off.																																						
8	COLOR	O	LED color select High: GREEN, Low: AMBER																																						
9	MUTE	O	Head unit internal mute High: On source selection or during stop, Low: During playback.																																						
10	AUX-MUTE	O	UNI-LINK slave unit mute High: During internal slave playback or stop. Low: During playback. Not used Open.																																						
11	AMP-MUTE	O	Mute for internal power amplifier out.																																						
12		O	Not used Open.																																						
13	ANT. REM	O	Output for power antenna. It is high in tuner and TV modes. High: FM, AM, MW, LW, TV modes, Low: Other modes.																																						
14	MD-P-ON	O	Power supply control for Preamp section and MD board. Always high when ACC is high																																						
15	MD2-ON	O	Wake up/sleep control for MECHA μ -COM. High: MECHA μ -COM ACTIVE, Low: MECHA μ -COM SLEEP																																						
16	MD-RESET	O	Reset for MECHA μ -COM. Reset MECHA μ -COM at  .																																						
17	MD-DATA. IN	I	Communication data input from MECHA μ -COM.																																						
18	MD-DATA. OUT	O	Communication data output to MECHA μ -COM.																																						
19	MD-CLK	O	CLOCK of the communication between MASTER μ -COM and MECHA μ -COM out.																																						
20	MD-CS	O	MASTER μ -COM transfer request on the communication between MASTER μ -COM and MECHA μ -COM. Request at  .																																						
21	VOL-CE	O	Chip enable to electronic volume																																						
22	VOL-INT	O	Initializing signal for electronic volume. High except initializing																																						
23	VOL-CLK	O	Clock to electronic volume																																						
24	VOL-DATA	O	Data to electronic volume																																						

Pin No.	Port Name	I/O	Description
25		O	Not used Open
26		O	Not used Open
27		O	Not used Open
28		O	Not used Open
29		I	Not used Open
30		I	Not used GND
31		I	Not used GND
32		I	Not used GND
33	Vss	—	Ground for μ -COM
34		I	Not used GND
35		I	Not used GND
36		I	Not used GND
37		I	Not used GND
38		O	Not used Open.
39		O	Not used Open.
40		O	Not used Open.
41		O	Not used Open.
42	SYSTEM-RESET	O	System reset for UNI-LINK
43	BUS ON	O	Controls UNI-LINK bus activation High: BUS SLEEP, Low: BUS ACTIVE
44	CLK OUT	O	Clock out for UNI-LINK
45	BEEP	O	Beep out. When requesting beep out, rectangular wave is out.
46	ACC-CHECK	I	ACC SW in High: ACC OFF, Low: ACC ON
47	KEY-ACK	I	Rises low to high by pushing KEY IN 0 or KEY IN 1 when KEY-ACTIVE is low. Usually high level is out when KEY-ACTIVE is high.
48	C-SW	I	Mechanism deck cartridge in switch High: There is a cartridge, Low: There is not.
49	SIRCS-IN	I	SIRCS input from remote controller
50	DATA IN	I	Data input from UNI-LINK
51	DATA OUT	O	Data output to UNI-LINK
52	CLK IN	I	Clock output to UNI-LINK. Input from pin ④.
53	B/U-CHECK	I	For back-up check High: BACK UP ON, Low: BACK UP OFF
54	Vss	—	Ground for μ -COM
55	XT1	—	Sub system clock
56	XT2	—	Sub system clock
57	GND	—	Connected to internally connected Vss.
58	X1	—	Main system clock
59	X2	—	Main system clock
60	RESET IN	I	Reset for μ -COM

Pin No.	Port Name	I/O	Description																																
61	LCD-C/O	O	Command/data select Low: Data, High: Command																																
62	LCD-CE	O	Chip enable to LCD driver																																
63	LCD-CLK	O	Clock to LCD driver																																
64	LCD-DATA	O	Data to LCD driver																																
65	GFS	I	GFS monitor input for test mode. High: GFS OK																																
66	TEL-MUTE	I	Telephone mute input. Attenuate audio output — 20 dB by putting low level in.																																
67	MD-SRQ	I	MECHA μ -COM transfer request on the communication between MASTER μ -COM and MECHA μ -COM. Request at  .																																
68	N-SW	I	Input there is nose or not. High: There is a nose, Low: There is not.																																
69		O	Not used Open.																																
70	SEL-A/D	O	ANALOG AUDIO/DIGITAL AUDIO SOURCE select High: DIGITAL, Low: ANALOG . Not used. Open																																
71		O	Not used. Open																																
72	KEY-ACT	O	A/D conversion button, reference Power supply on/off output Low: On, High: off.																																
73	GND		Ground for A/D converter input																																
74		ADI	Not used GND																																
75	P-SEL. SW	ADI	Power select switch input High: POWER SEL ON, Low: POWER SEL OFF																																
76	EQ-ON	ADI	EQ on /off. control																																
77	DEST-SEL	ADI	There is TV key/on not. Low : There is TV key High : None																																
78		ADI	Not used, GND																																
79		ADI	Not used, GND																																
80	KEY-IN1	ADI	Key input by A/D conversion no. 1 <table><tr><th>AD VALUE [V]</th><th>KEY-IN1 AN1</th></tr><tr><td>0 — 0.293</td><td>OFF</td></tr><tr><td>0.313 — 0.605</td><td>MD</td></tr><tr><td>0.625 — 0.918</td><td>FM/AM</td></tr><tr><td>0.938 — 1.230</td><td>CD</td></tr><tr><td>1.250 — 1.543</td><td>MANU/DISC —</td></tr><tr><td>1.563 — 1.855</td><td>MANU/DISC+</td></tr><tr><td>1.875 — 2.168</td><td>SENS/BTM</td></tr><tr><td>2.188 — 2.480</td><td>FILE/SCROL</td></tr><tr><td>2.500 — 2.793</td><td>MUTE</td></tr><tr><td>2.813 — 3.105</td><td>VOL —</td></tr><tr><td>3.125 — 3.418</td><td>SEL</td></tr><tr><td>3.438 — 3.730</td><td>VOL+</td></tr><tr><td>3.750 — 4.403</td><td>SEEK/AMS —</td></tr><tr><td>4.063 — 4.355</td><td>SEEK/AMS+</td></tr><tr><td>4.375 — 4.668</td><td>(KEY OFF)</td></tr></table>	AD VALUE [V]	KEY-IN1 AN1	0 — 0.293	OFF	0.313 — 0.605	MD	0.625 — 0.918	FM/AM	0.938 — 1.230	CD	1.250 — 1.543	MANU/DISC —	1.563 — 1.855	MANU/DISC+	1.875 — 2.168	SENS/BTM	2.188 — 2.480	FILE/SCROL	2.500 — 2.793	MUTE	2.813 — 3.105	VOL —	3.125 — 3.418	SEL	3.438 — 3.730	VOL+	3.750 — 4.403	SEEK/AMS —	4.063 — 4.355	SEEK/AMS+	4.375 — 4.668	(KEY OFF)
AD VALUE [V]	KEY-IN1 AN1																																		
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3.750 — 4.403	SEEK/AMS —																																		
4.063 — 4.355	SEEK/AMS+																																		
4.375 — 4.668	(KEY OFF)																																		

TUNER MICROCOMPUTER CONTROL MN1882417SZP (MAIN BOARD IC502) (MDX-100)

Pin No.	Port Name	I/O	Description
1 - 6	———	——	Not used. Open
7	VDD	——	Power supply in
8	OSC1	——	Connected to oscillator 8 MHz
9	OSC2	——	
10	Vss	——	GND
11	X1	——	Not used. Open
12	X0	——	Not used. Open
13	EX2	——	GND
14	$\overline{\text{RESET}}$	——	Reset in
15	RDS-CLK	——	Not used. Open
16	BU-CHECK	I	Detects back-up
17	BUS-ON	I	Bus interface bus on signal in. *1
18 - 29	———	——	Not used. Open
30	RDS-DATA	O	Not used. Open
31	GND	I	GND
32	AM-ST	I/O	Not used. Open
33	———	——	Not used. Open
34	———	——	Not used. Open
35	———	——	Not used. Open
36	GND	I	GND
37	GND	I	GND
38	DI	I	PLL data input
39	DO	O	PLL data output
40	CLK	O	PLL CLK output
41	CE	O	PLL CE output
42	REQUEST	O	Bus interface request (High: Requests communication)
43	LINK-OFF	O	Bus interface INT-LINK *2
44	SCK	I	Bus interface clk input
45	SI	I	Bus interface data input
46	SO	O	Bus interface data output
47	VDD	——	Power supply
48	AVDD	——	Power supply for AD input port
49	VREF	——	Reference voltage for AD port in (side +)
50	———	——	GND
51	———	——	GND
52	RAM-RST	I	RAM reset input *3
53	MUTE-SEL	I	Mute operation select (Refer to pin 66)
54	MS-1	I	Mode select input (Reads out on reset) *4
55	MS-2	I	
56	AM-ST	I	AM/FM signal meter voltage detects
57	FM-ST	I	
58	GND	——	GND
59	———	——	GND
60	———	——	GND

Pin No.	Port Name	I/O	Description
61	TU-ON	O	TUNER-ON out. Not used
62	DX/LO	O	DX/LOCAL out. Not used
63	SEEK	O	SEEK-out *5
64	AM-ON	O	AM-ON out High: AM
65	FM-ON	O	FM-ON out Low: FM
66	MUTE	O	MUTE out *6
67	AF-SEEK	O	AUDIO source select
68	SIGNAL1	O	
69	————	——	Not used
70	FM-ST	I/O	Used both as ST indicating signal input and force-mono output Stereo indicator turns on when low level input. Low level output when force-mono output.
71	SD-IN	I	SD signal input (Decides the level for stopping SEEK, AUTO-MEMORY, SCAN or the like)
72 – 80	————	——	Not used

*1. Interrupting terminal for bus on/off detection .

*2. High : Link-off.

Low : Bus is connecting.

*3. For checking SRAM data is not broken by a voltage reduction.

*4. Mode select.

*5. Generates low level to change the frequency.

*6. Operation is different according to pin ⑤ (MUTE-SEL)

MS-1	MS-2	Destination
L	L	J (AM STEREO)
H	L	J (AM MONO)
L	H	US
H	H	AEP

	TUNER PLAYNG	TUNER BEHIND	TUNER OFF	ACC OFF	POWER OFF	BACK UP OFF	BUS OFF
⑤ (MUTE – SEL): High	Normal operation	Alway low	L	L	L	Input	Input
⑤ (MUTE – SEL): Low	Normal operation	Always high	H	H	H	Input	Input

TUNER MICROCOMPUTER MN1883220SZC (MAIN BOARD IC502) (MDX-100RDS)

Pin No.	Port Name	I/O	Description
1 – 6	————	——	Not used. Open
7	V _{DD}	——	Power supply in
8	OSC1	——	Connected to oscillator 8 MHz
9	OSC2	——	
10	V _{SS}	——	GND
11	X1	——	Not used. Open
12	X0	——	Not used. Open
13	EX2	——	GND
14	RESET	I	Reset in
15	RDS-CLK	I	RDS-CLK input
16	BU-CHECK	I	Detects back-up
17	BUS-ON	I	Bus interface bus on signal input. *1
18 – 29	————	——	Not used. Open
30	RDS-DATA	I	RDS-DATA input
31	GND	——	GND
32	AM-ST	——	Not used. Open
33	————	——	Not used. Open
34	————	——	Not used. Open
35	————	——	Not used. Open
36	GND	——	GND
37	GND	——	GND
38	DI	I	PLL data input
39	DO	O	PLL data output
40	CLK	O	PLL CLK output
41	CE	O	PLL CE output
42	REQUEST	O	Bus interface request (High: Requests communication)
43	LINK-OFF	O	Bus interface INT-LINK *2
44	SCK	I	Bus interface clk input
45	SI	I	Bus interface data input
46	SO	I/O	Bus interface data output
47	V _{DD}	——	Power supply
48	AV _{DD}	——	Power supply for AD input port
49	VREF	——	Reference voltage input for AD port (side +)
50	————	——	GND
51	————	——	GND
52	RAM-RST	——	GND
53	MUTE-SEL	I	Mute operation select (Refer to pin ⑤)
54	MS-1	I	Mode select input (Reads out on reset) *3
55	MS-2	I	
56	AM-ST	I	AM (MW: SW: LW) FM signal meter voltage detects
57	FM-ST	I	
58	GND	——	Reference voltage for AD port in (side -). GND
59	————	——	GND
60	————	——	GND

Pin No.	Port Name	I/O	Description
61	TU-ON	O	TUNER-ON out. Not used
62	$\overline{\text{DX}}/\text{LO}$	O	$\overline{\text{DX}}/\text{LOCAL}$ out. Not used
63	SEEK	O	SEEK OUT out *4
64	AM-ON	O	AM-ON out High: AM (MW, LW, SW)
65	FM-ON	O	FM-ON out High: FM
66	MUTE	O	MUTE out *5
67	AF-SEEK	O	AF-SEEK OUT
68	SIGNAL1	—	GND
69	—	—	Not used. Open
70	FM-ST	I/O	Used both as ST indicating signal input and force-mono output Stereo indicator turns on when low level input. Low level output when force-mono output.
71	SD-IN	I	Signal detector input (Decides the level for stopping SEEK, AUTO-MEMORY, SCAN or the like)
72 – 80	—	—	Not used

*1. Interrupting terminal for bus on/off detection .

*2. High : Link-off.
Low : Bus is connecting.

*3. Mode select.








*4. Generates low level to change the frequency.




*5. Operation is different according to pin ⑤ (MUTE-SEL)

MS-1	MS-2	Destination
L	L	FM+MW+LW
H	L	FM+MW+SW
L	H	FM+AM
H	H	FM+AM

	TUNER PLAYNG	TUNER BEHIND	TUNER OFF	ACC OFF	POWER OFF	BACK UP OFF	BUS OFF
⑤ (MUTE – SEL): High	Normal operation	Alway low	L	L	L	Input	Input
⑤ (MUTE – SEL): Low	Normal operation	Always high	H	H	H	Input	Input

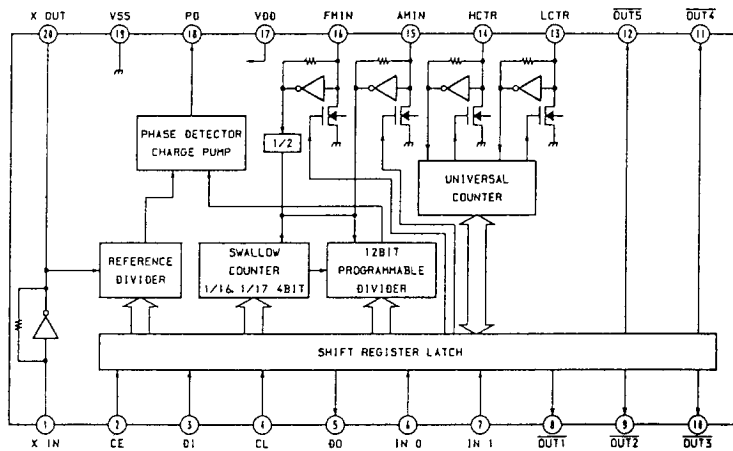
MECHA MICRO COMPUTER μ PD78136GF-034-3B9 (MD SERVO BOARD IC514)

Pin No.	Port Name	I/O	Description
1	TEST ON	I	TEST on/off. High: ON, Low: OFF.
2	SI	I	Communication data input from MASTER μ - COM.
3	SO	O	Communication data output to MASTER μ - COM.
4	SCK	I	CLOCK of the communication between MASTER μ -COM and MECHA μ -COM in.
5	WP	INT	nomally 5V.
6	DQSY	INT	DQ S/NC interruption. Interrupted at  .
7	SQSY	INT	SUBQ SYNC interruption. Interrupted at  .
8	ATSY	INT	ADIP SYNC interruption. Interrupted at  .
9	DEFECT	I	Not used Open.
10	FOK	I	Focus OK. High: FOK.
11	CS	INT	Not used.
12	CS	I	Chip select signal for the communication between. Master μ -COM and MECHA μ -COM in
13	5V POWER	O	Servo IC power control. High: POWER ON, Low: POWER OFF
14	SRQ	O	MECHA μ -COM transfer request on the communication between MASTER μ -COM and MECHA μ -COM. Request at  .
15	LOAD	O	LOADING/EJECT output for motor
16	EJECT	O	LOADING/EJECT output for motor
17	LDON	O	Laser on/off output High: LASER OFF, Low: LASER ON
18	LDPOWER	O	Laser power control Low: On low reflecting rate disc (MO), High: On high reflecting rate disc (CD).
19	AVss		Ground for A/D convertor input. (0 V)
20	AV REF		Reference voltage input for A/D convertor. (5 V)
21	SW1	ADI	Loading start switch, eject end switch. Loading starts on  , Eject is end on  .
22	SW2	ADI	Loading end switch Loading is end on  .
23	SW3	ADI	(Not used) Open.
24	SW4	ADI	Disc reflecting rate detection switch. Detects from holes on the cartridge. Low: On high reflecting rate disc (CD), High: On low reflecting rate disc (MO).
25	TEMP	ADI	Detects the mechanism deck is high temperature or not. High: normal, Low: high temperature
26	TEST	ADI	Not used Open.
27	TEST	ADI	Not used Open.
28	TEST	ADI	Not used Open.
29	RESET		Reset for μ -COM. Low: Reset
30	VDD		Power for μ -COM
31	X2		For the system clock. 12MHz
32	X1		For the system clock. 12MHz
33	Vss		Ground for μ -COM
34	RFSW1	O	Disc mode High: On pit, Low: On groove

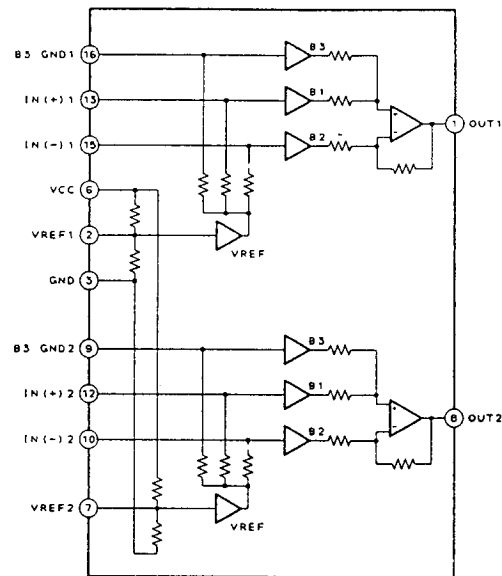
Pin No.	Port Name	I/O	Description
35	RFSW0	O	Disc mode High: On CD, Low: On MO
36	ASYSW	O	On playing back CD disc pit: Fixed to high. On playing back MO disc groove: High=Normal, Low=On track jump operation.
37	AGCSW	O	AGC time constant select High: Focusing starts, Low: Focusing is end.
38	MIRRSW	O	On playing back CD disc pit: Fixed to low. On playing back MO disc groove: High=Normal, Low=On track jump operation and on the time from CLV, tracking, sled servo go on to starting is OK.
39	DFCTSW	O	High: Focusing starts. Low: All servo (Focus, CLV, Tracking, sled) is on.
40	SLO MUTE	O	Motor driver power control "High": ON, "Low": OFF
41	COMP		Not used Open.
42 – 49	TEST	I	KEY SCAN input 0 to test pin
50	FOK	I	Focus OK High: Focus OK, Low: Focus NG
51	ATT	O	CXD2527 Attenuation (– 12dB) High: On, Low: Off
52	AEXEC	O	CXD2527 start High: Start, Low: Stop
53	CD/MO	I	Connected to CXA1381. CD/MO (reflecting rate) discrimination High: High reflection, Low: Low reflection
54	SENS	I	SENSE input from CXA1082 and CXD2525. (Internal status)
55	LOCK	I	LOCK input from CXD2525. "High": CLV lock, "Low": CLV unlock
56	GD FS	I	GFS (Guard frame sink) OK High: GFS OK, Low: GFS NG
57	XINT	I	CXD2526 interruption. Detects  low level.
58	MD2	O	Digital out on/off (High: on)
59	DIRC	O	High: Detects track jump TZC, Low: 1 track jump end
60	XRST	O	Reset the servo IC on  .
61	SORS	O	Reset ENSCOR
62	SBMN	O	Connected to CXD2526 SBMN. "High": Sub data control, "Low": Main data control
63	WRMN	O	Writing enable signal output to RAM (High: playback mode, Low: Monitor mode)
64	RCPB	O	REC/PB selection High: REC, Low: PB. Not used. Open.
65	SCTX	O	CD-DA mode SCOR input
66	FOST SW	O	Focus error offset select.
67	Vss	–	Ground for μ -COM
68	\overline{EA}	–	Not used. Pull up.
69	SCK	I	Clock for serial communication to servo IC.
70	ARST	O	Reset output to CXD2527. Reset on  .
71	SWDT	O	Write data for serial communication to servo IC.
72	SRDT	O	Read data for serial communication to servo IC.
73	XLAT	O	Latch for serial communication to servo IC.
74	MDT	O	Digital filter interface clock out.
75	MCK	O	Digital filter interface data out.
76	MLEN	O	Digital filter interface latch enable out.
77	VDD	–	Power for μ -COM
78	8VPOWER	–	8 V system power supply. High: On, Low: Off
79	MUTE	O	Audio mute High: Mute on, Low: Mute off
80		–	Not used, Open.

• IC Block Diagrams

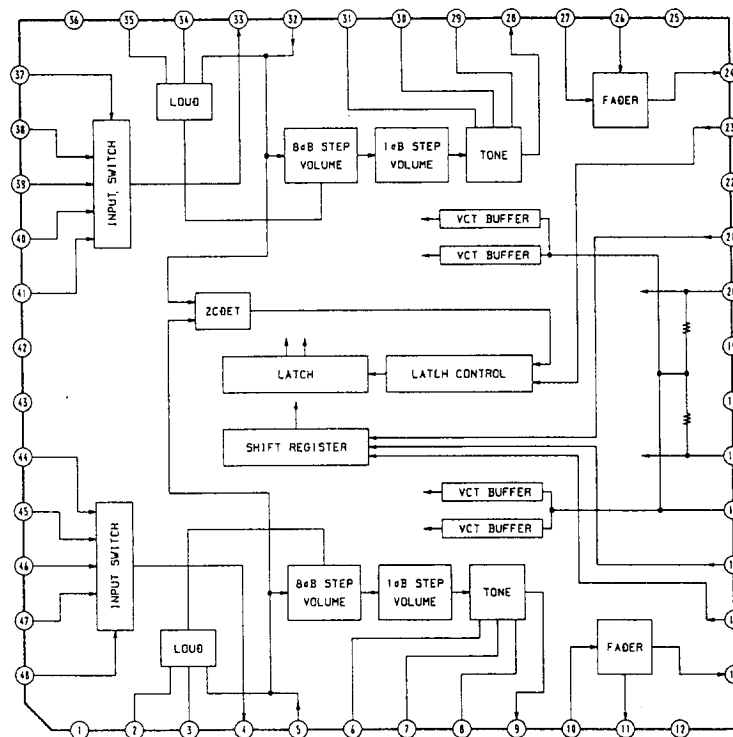
IC2 LC7216M-TP-T1 (MAIN BOARD)



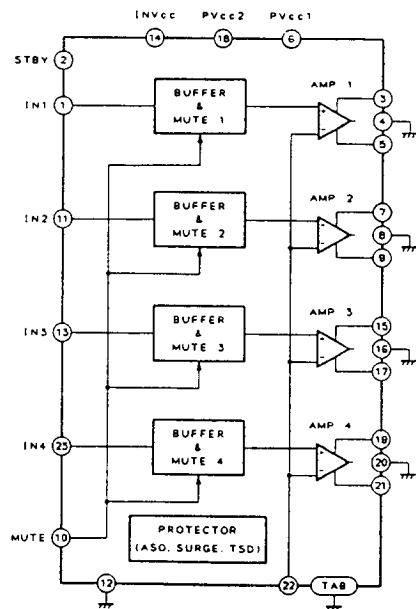
IC103 TA8181F (MAIN BOARD)



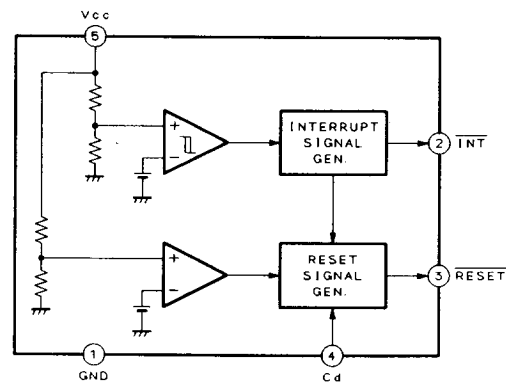
IC301 CXA-1646Q-T6 (MAIN BOARD)



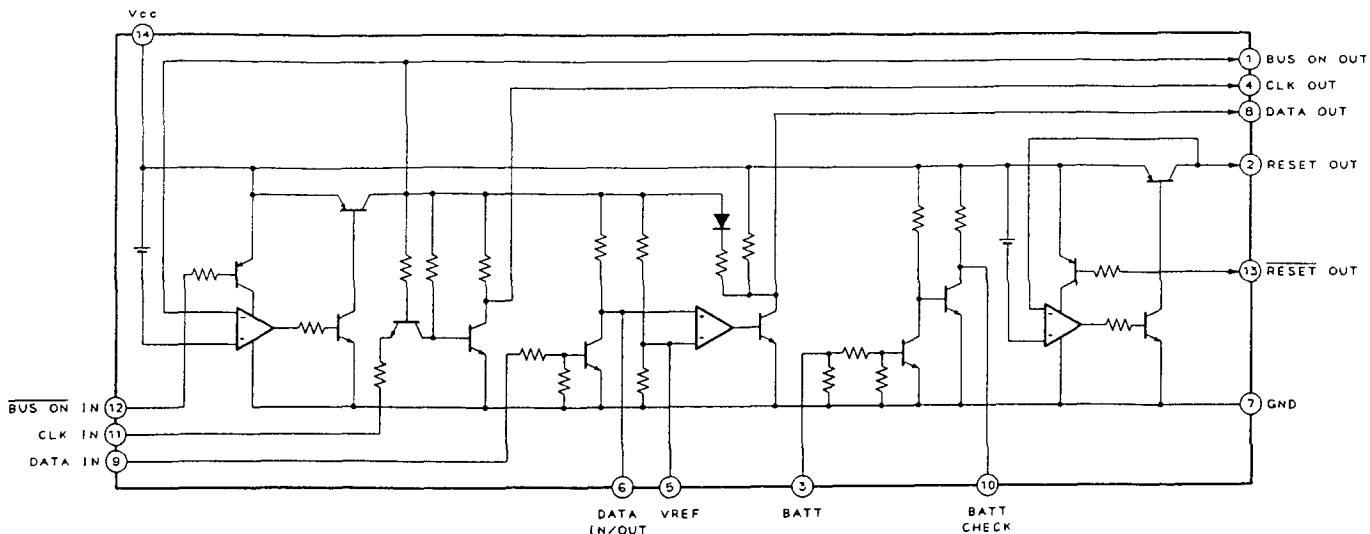
IC303 HA13151 (MAIN BOARD)



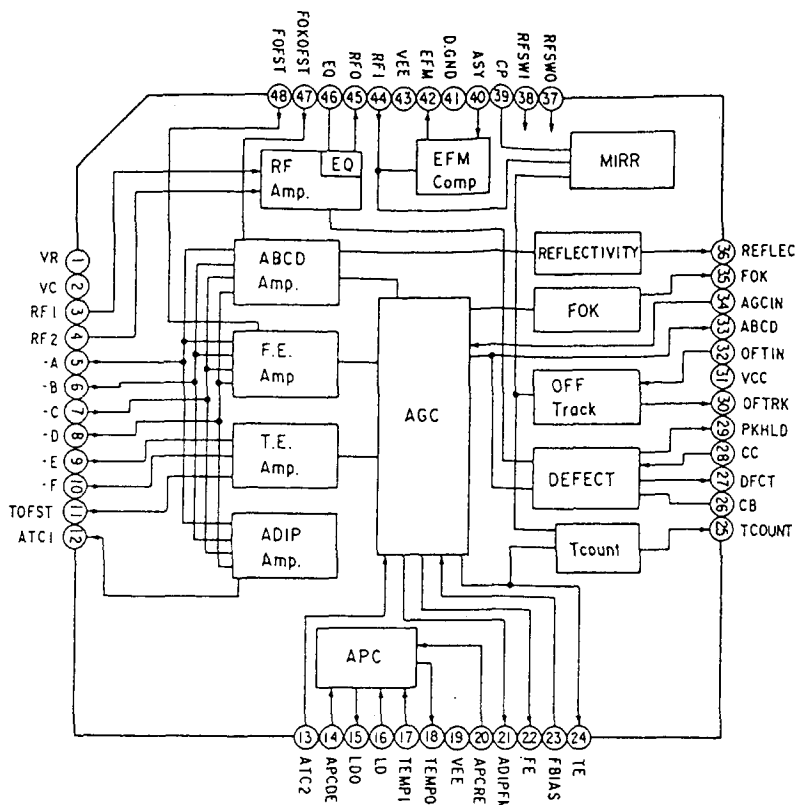
IC503 M62008FP-T1 (MAIN BOARD)



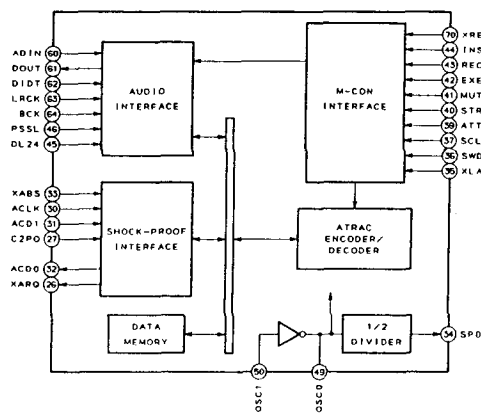
IC506 MM1175XFF (MAIN BOARD)



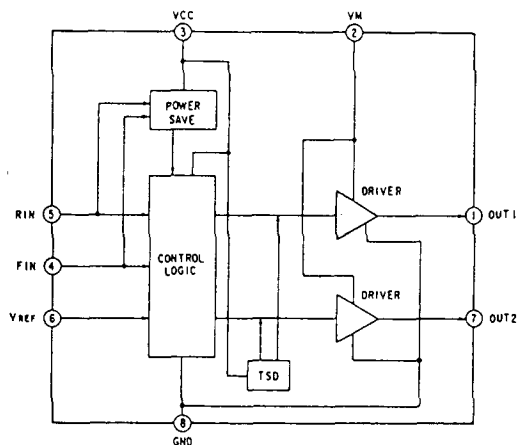
IC502 CXA1381R (MD SERVO BOARD)



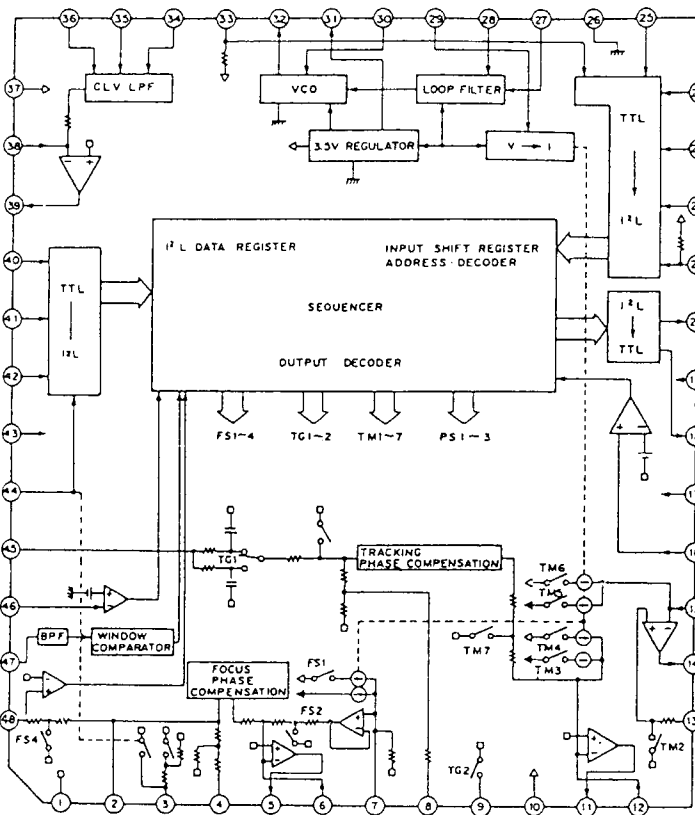
IC507 CXD2531R (MD SERVO BOARD)



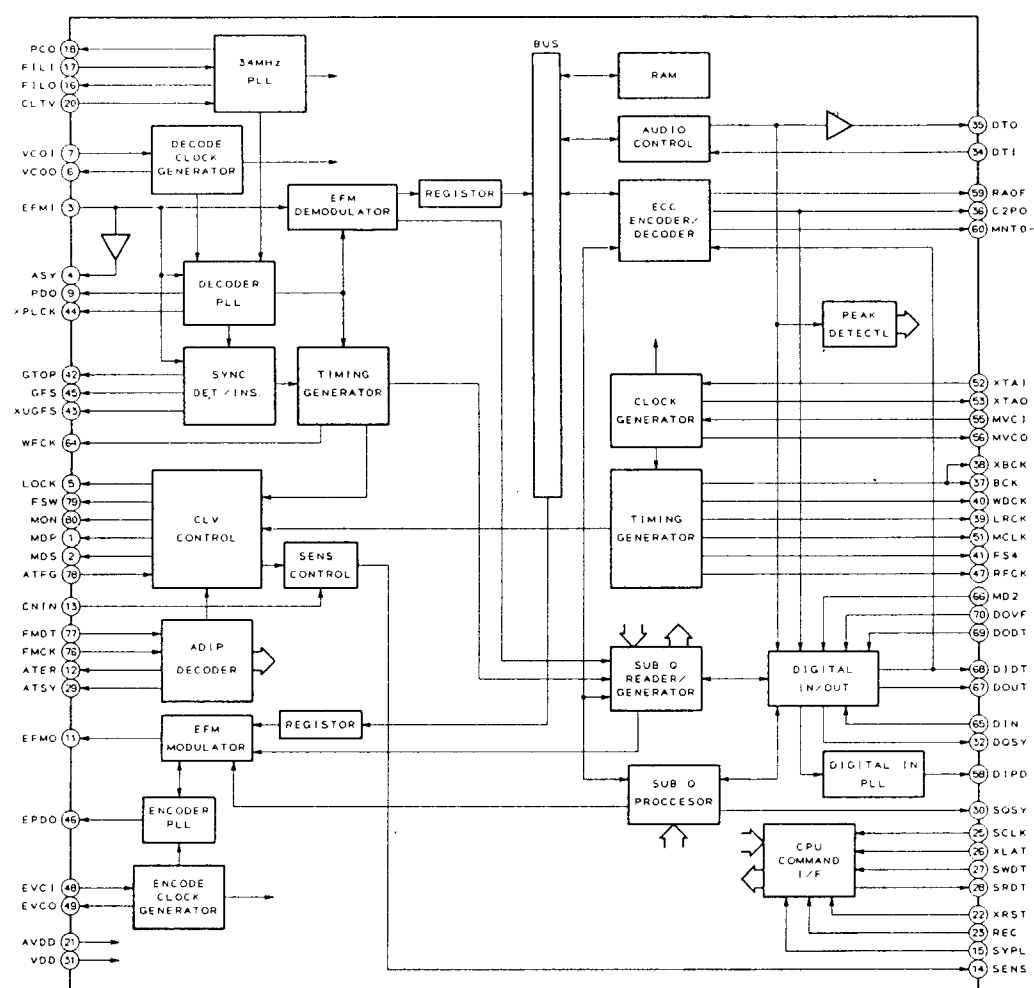
IC519 BA6287F (MD SERVO BOARD)



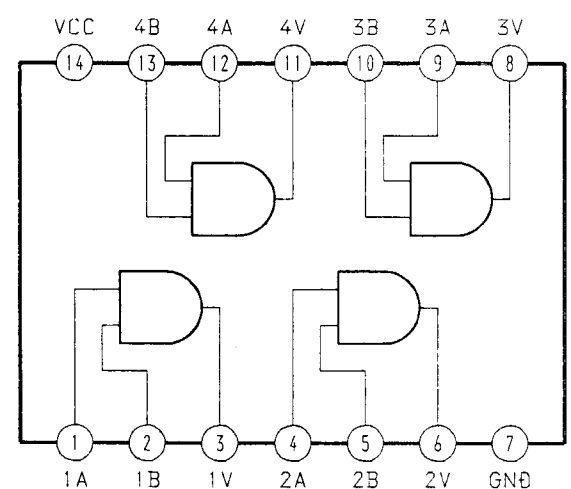
IC503 CXA1082BQ (MD SERVO BOARD)



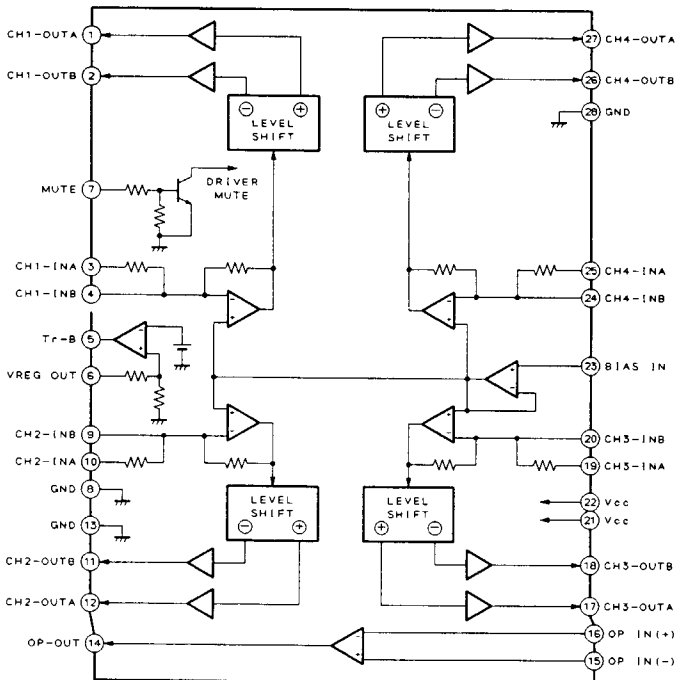
IC504 CXD2525R (MD SERVO BOARD)



IC511 SN74HC08ANS-T1 (MD SERVO BOARD)

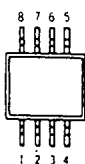


IC513 BA6398FP-T1 (MD SERVO BOARD)



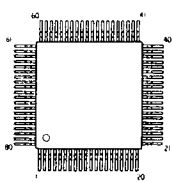
• Semiconductor Lead Layouts

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NJM3404AM-T1
NJM5532M
TC4W66F-TE12L

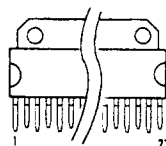


(TOP VIEW)

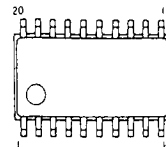
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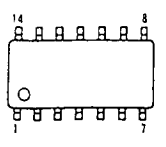
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LC7216M
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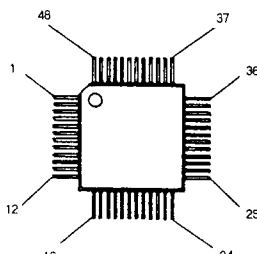


MM1175XFF



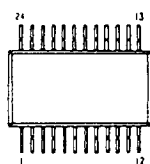
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CXA1082BQ
CXA1381R
CXA1646Q



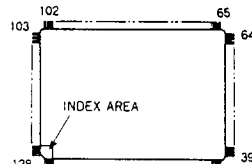
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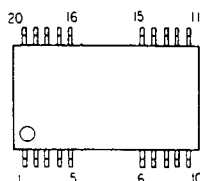
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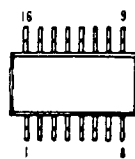
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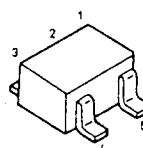


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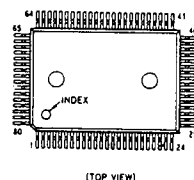


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TC4S66F



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μ PD78136GF-034-3B9

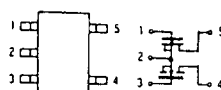


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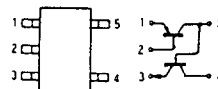
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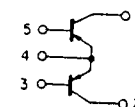
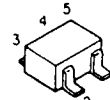
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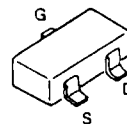
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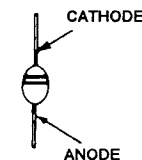
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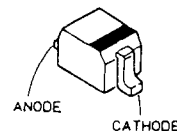
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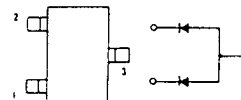
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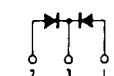
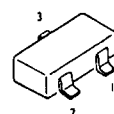
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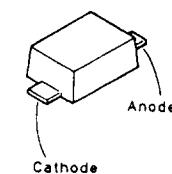
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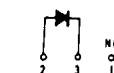
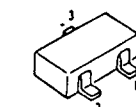
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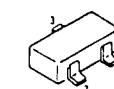
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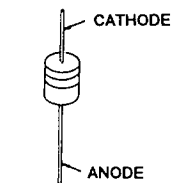
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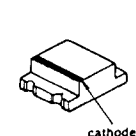
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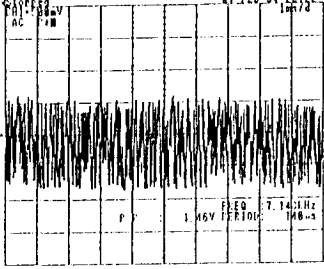


CL-155Y/PG-D-T-YL

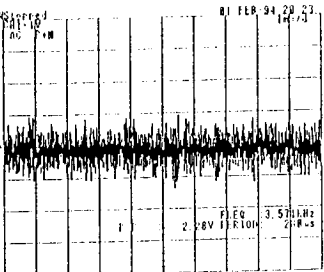


● MD Servo Board Waveforms

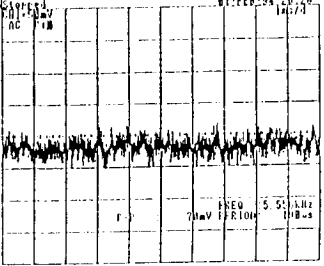
① IC501 ⑪ 500mV/DIV
1ms/DIV



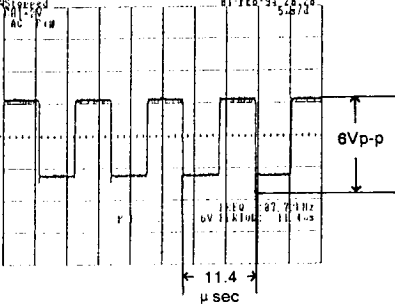
② IC502 ⑭ 1V/DIV
1ms/DIV



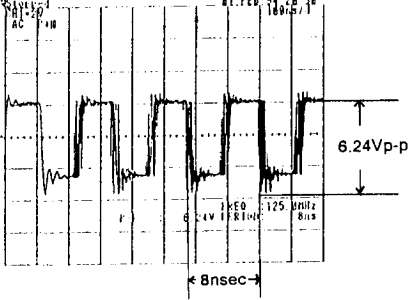
③ IC502 ⑰ 50mV/DIV
1ms/DIV



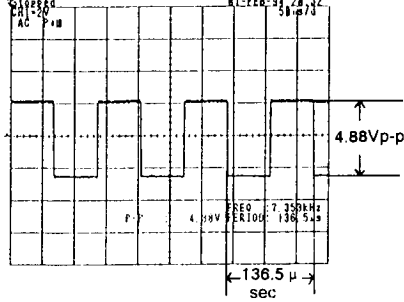
④ IC504 ④①



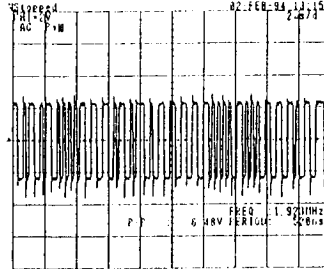
⑤ IC504 ④②



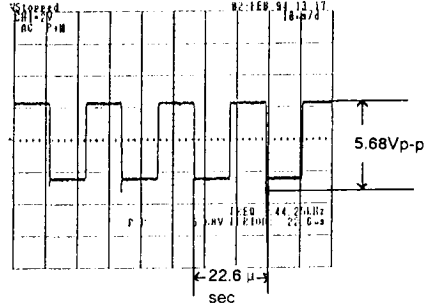
⑥ IC504 ④③



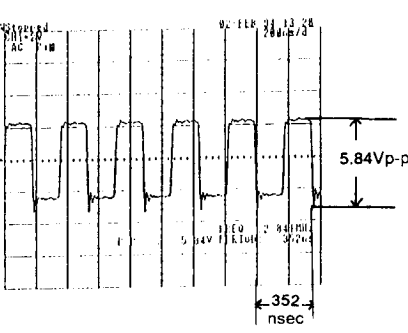
⑦ IC504 ④④ 2V/DIV
2μs/DIV



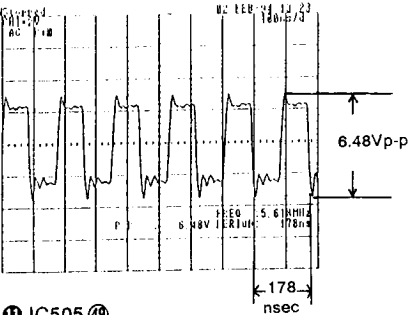
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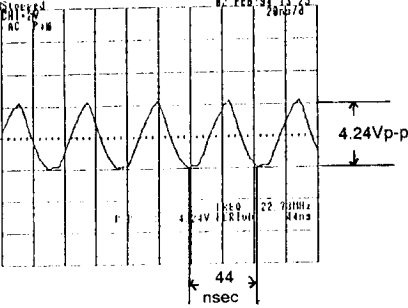
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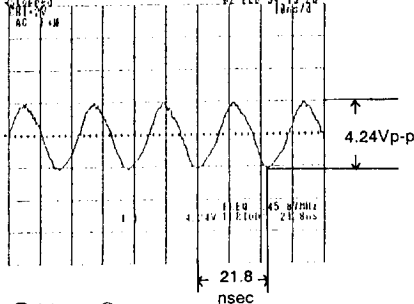
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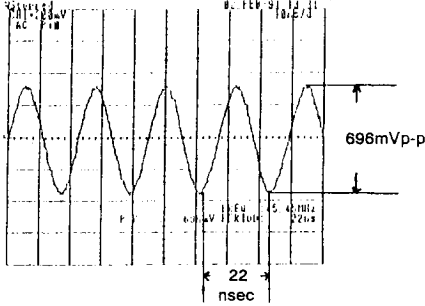
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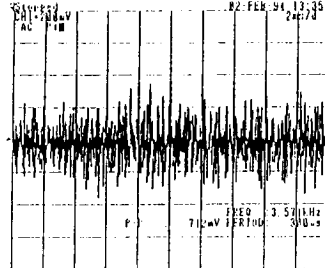
⑫ IC507 ④⑤



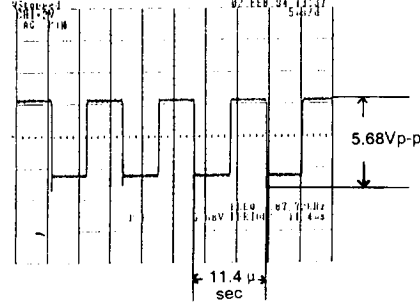
⑬ IC507 ④⑥



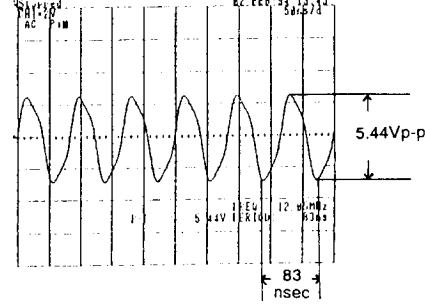
⑭ IC503 ⑤ 200mV/DIV
2ms/DIV



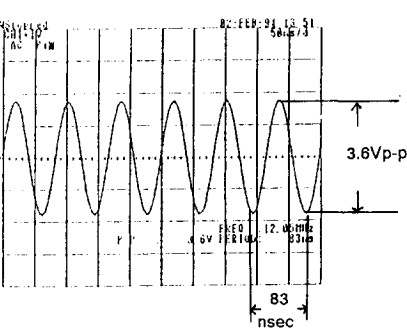
⑮ IC503 ④①



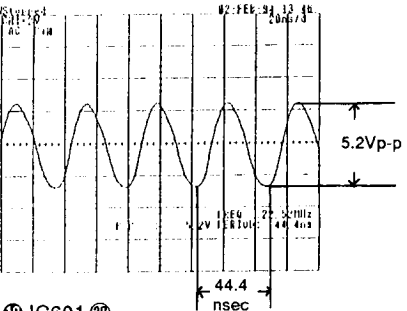
⑯ IC514 ③①



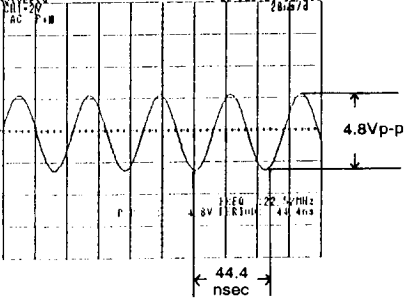
⑰ IC514 ③②



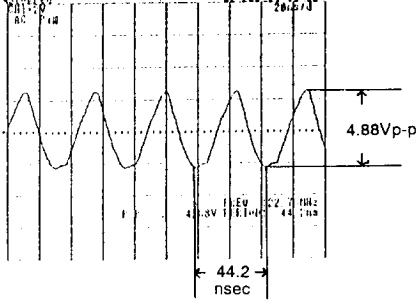
⑱ IC601 ①



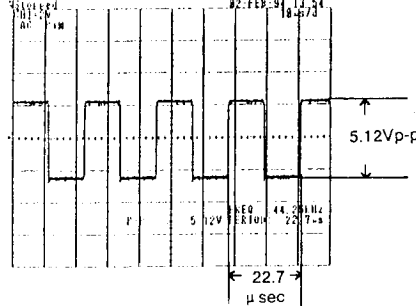
⑲ IC601 ②③



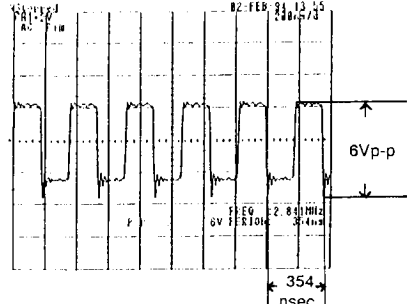
⑳ IC601 ④



㉑ IC601 ⑧

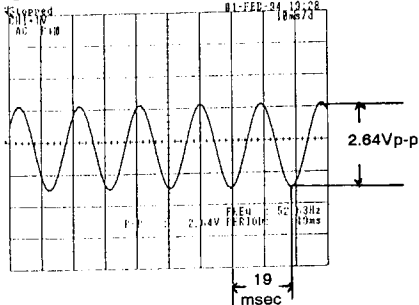


㉒ IC601 ⑨

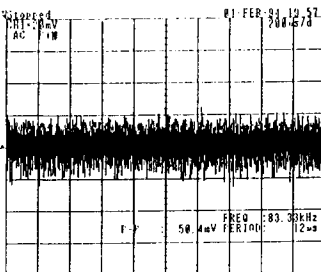


● Main Board Waveforms

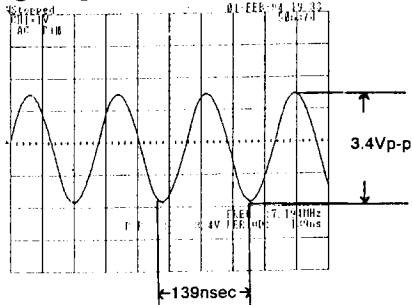
① IC2 ① TUNER MODE



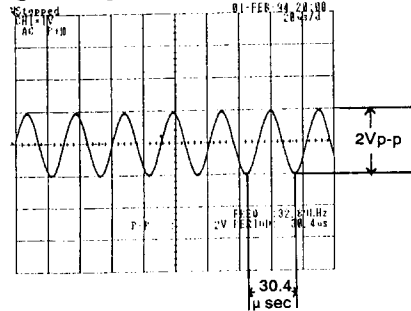
⑥ IC501 ④ MD PLAY MODE 20mV/DIV
200 μs/DIV



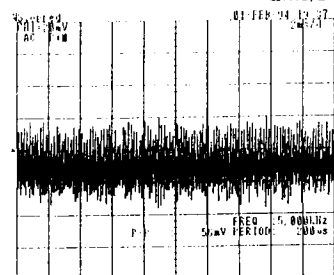
② IC2 ② TUNER MODE



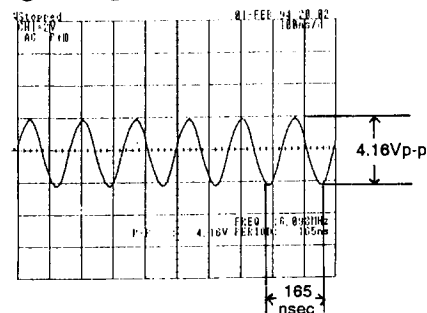
⑦ IC501 ⑤ MD PLAY MODE



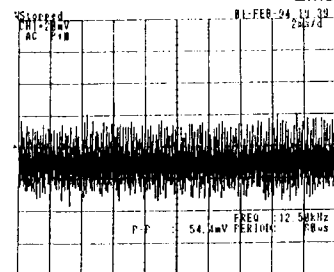
③ IC2 ④ TUNER MODE 20mV/DIV
2ms/DIV



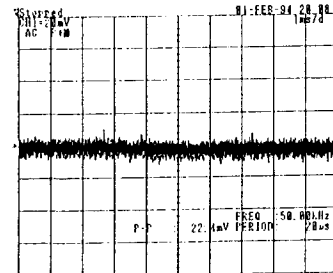
⑧ IC501 ⑥ MD PLAY MODE



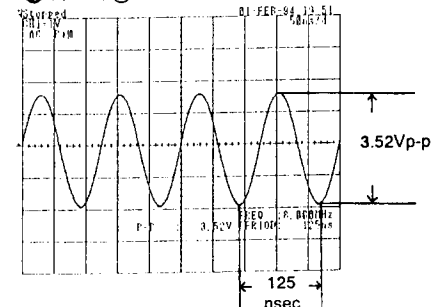
④ IC2 ④ MD PLAY MODE 20mV/DIV
2ms/DIV



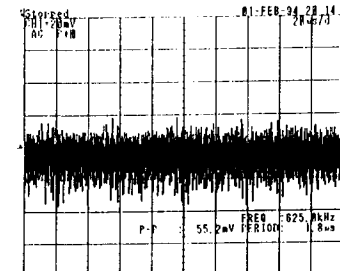
⑨ IC501 ⑥ MD PLAY MODE 20mV/DIV
1ms/DIV



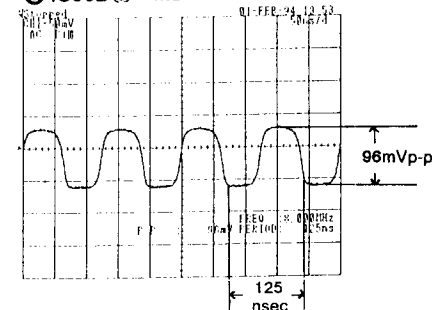
④ IC502 ⑧ MD PLAY MODE



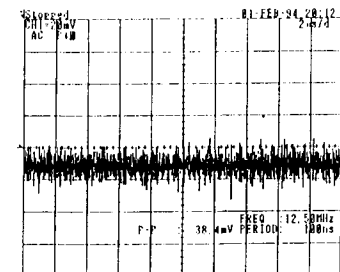
⑩ IC501 ⑩ MD PLAY MODE 20mV/DIV
20 μs/DIV



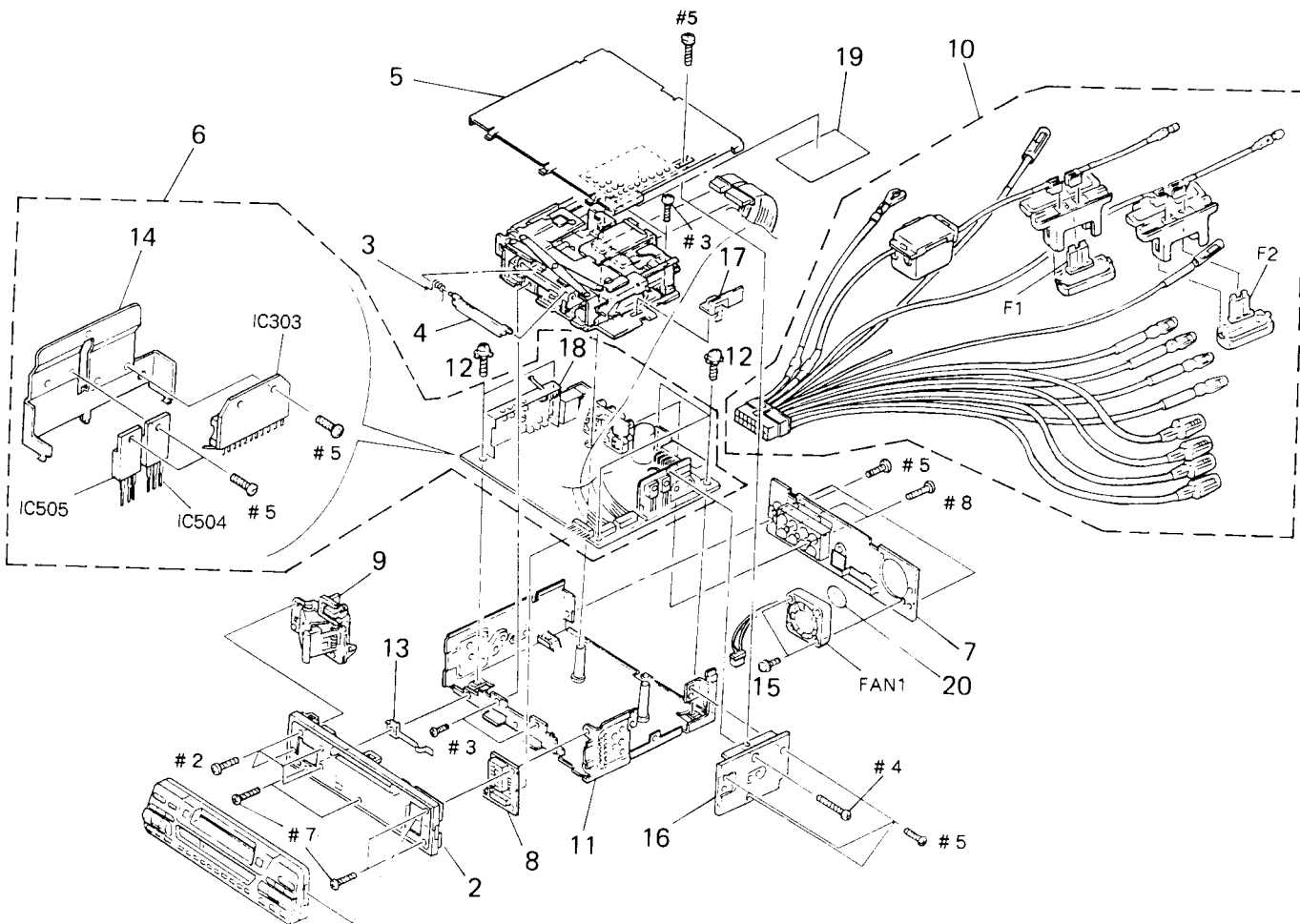
⑤ IC502 ⑨ MD PLAY MODE



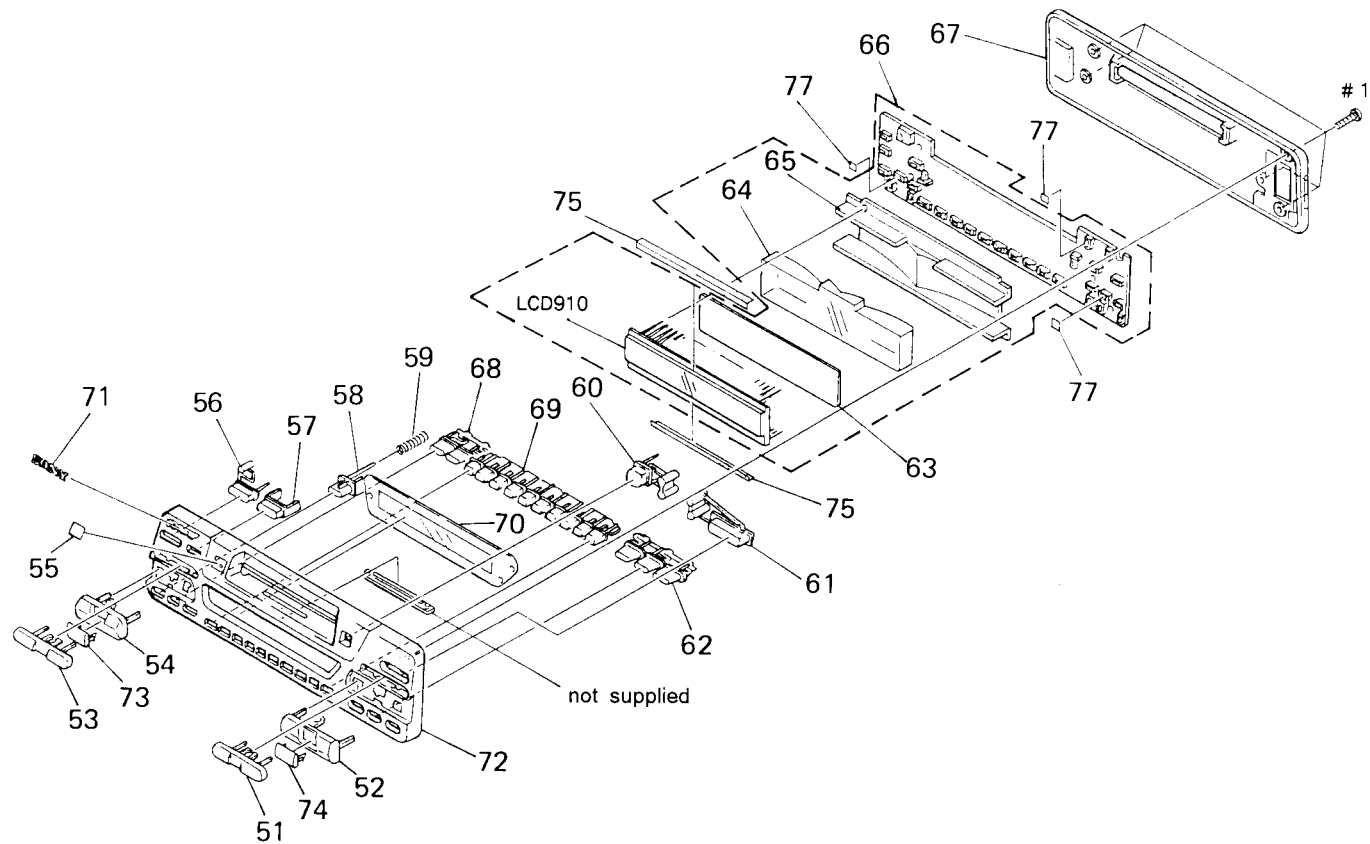
⑪ IC501 ⑩ MD PLAY MODE 20mV/DIV
2 μs/DIV



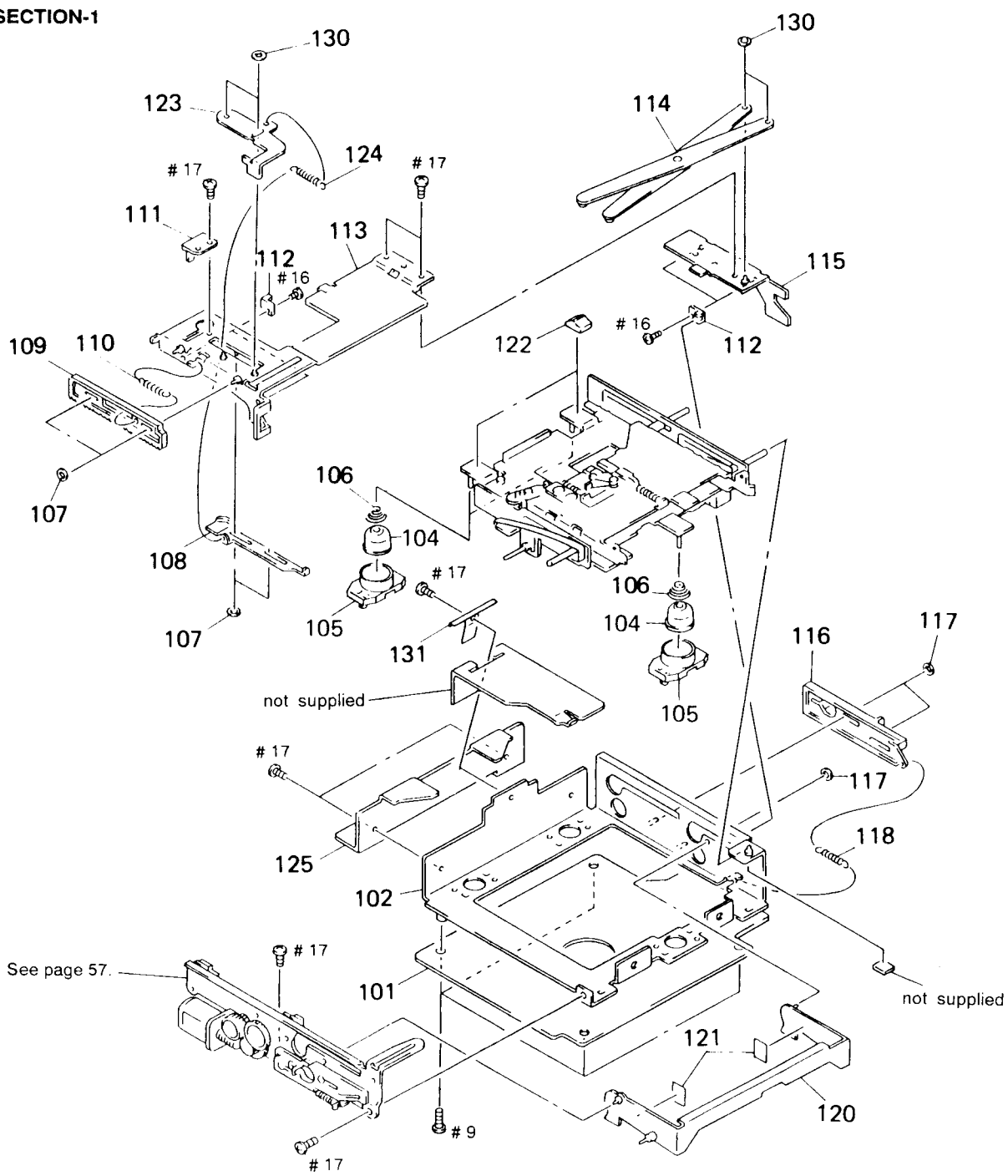
(1) CHASSIS SECTION



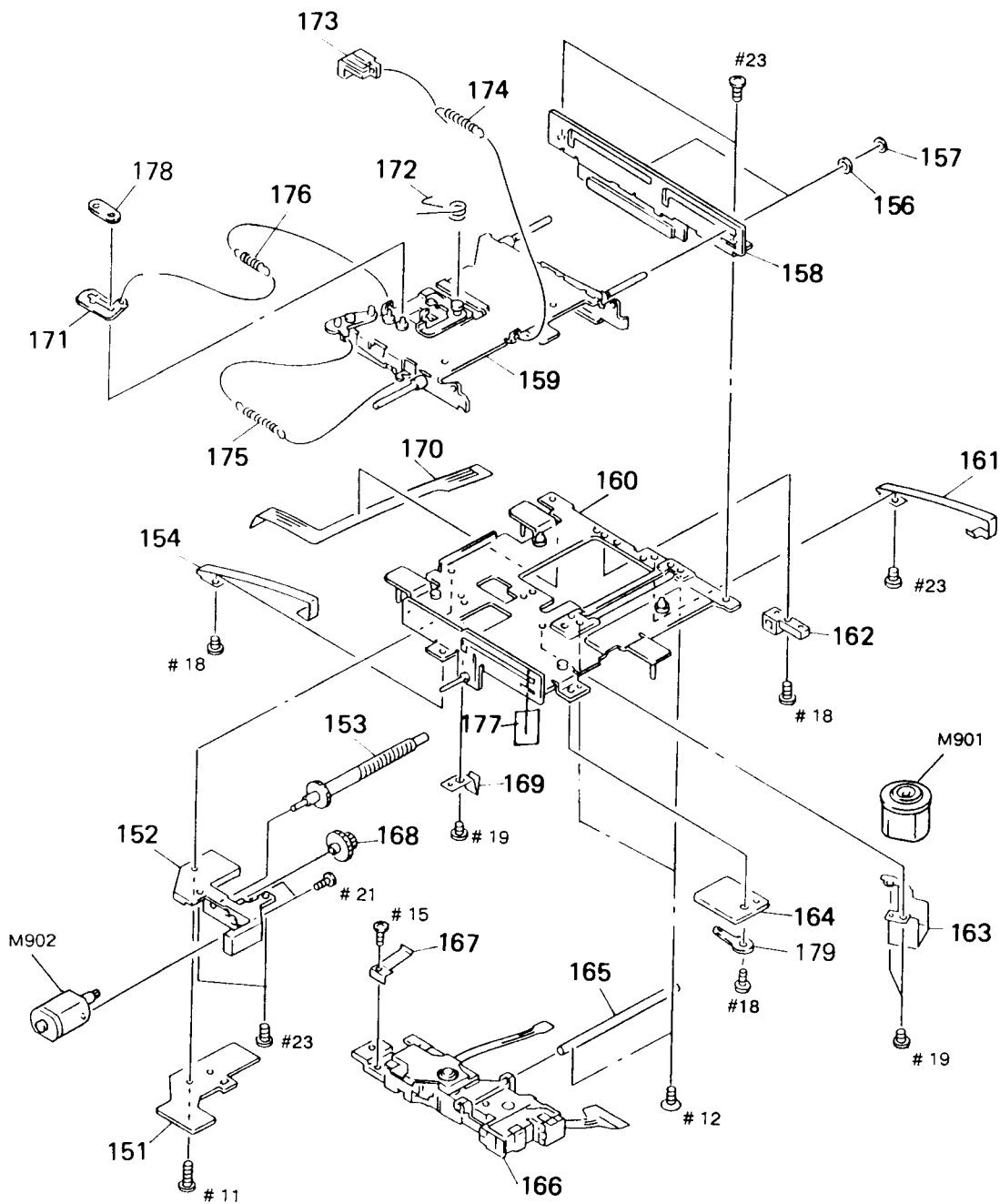
(2) FRONT PANEL SECTION



(3) MD-SECTION-1



(4) MD SECTION-2



(5) MD SECTION-3

